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THE LOADING OF FILTER PLANTS.¹

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The rapid growth of the inland cities of the United States, together with the extension of their sewerage systems, has brought with it a serious public-health problem in the marked increase that has taken place in the pollution of streams used jointly as carriers of sewage and as sources of public water supplies. So rapidly has this condition developed along a number of the more important waterways that concern has been aroused among sanitary engineers as to how much further it can be safely allowed to continue unchecked without threatening to break down the safeguards which modern water purification has erected between the sewage-polluted source of water supply and the domestic consumer.

A very good illustration of the rapidity with which the increasing pollution of our larger river systems has caused a progressive deterioration in the raw water supplies of certain important municipal filtration works is afforded by yearly average bacterial figures² for the raw water taken from the Ohio River at the Cincinnati filtration plant, extending over a period of 12 years, from 1908 to 1919, inclusive. Averaging these figures by three-year periods the results are as follows:

Years.	Bacteria per c. c. (gelatin, 20° C.).	B. coli per c. c.
1908-1910.....	8,400	.....
1911-1913.....	13,670	13.9
1914-1916.....	17,030	23.2
1917-1919.....	23,040	23.6

There are no cities of any considerable size located on the Ohio River or any of its tributaries within a distance of over 100 miles upstream from the Cincinnati water intake, so that the increase in degree of pollution of the river at this intake, as shown by the above

¹ An abstract of this paper was read at the annual meeting of the American Water Works Association, Cleveland, Ohio, June, 1921.

² Kindly furnished by Mr. Clarence Bahlman, chief bacteriologist at the Cincinnati filtration plant.

figures, can not be attributed to any influences local in their character, but is due solely to the effects of widespread increasing pollution of the upper Ohio River system. This example, while perhaps more striking than some others, is fairly representative of the changes that are occurring in a large number of important streams used as sources of water supplies, particularly in the more thickly settled portions of the Middle West.

A rational view of this problem in the light of modern resources for dealing with it recognizes first of all that public interest and economy demand the continued use of streams jointly for purposes of sewage disposal and water supplies. While the latter use must always take precedence over the former, it has become axiomatic that all water supplies taken from surface sources must be purified before delivery to the consumer. From a practical standpoint, therefore, the problem has become one of so regulating the pollution of streams that water-purification plants taking their raw-water supplies from them may be insured against becoming overloaded. The key to its most effective and economical solution lies, first, in determining what, in measurable terms of stream pollution, constitutes the maximum burden of pollution which can safely be imposed upon such plants and, second, in so utilizing the natural dilution and self-purification capacities of polluted streams that any threatened overburdening of these plants may be relieved at a minimum expense. While the present paper deals largely with the first of these two questions, they are so intimately related to each other that any discussion of one can hardly exclude some consideration of the other.

Until very recently, the belief was current that water-purification plants of modern type, particularly with the introduction of chlorine disinfection, were capable of purifying satisfactorily a water of almost any degree of pollution, ordinarily at a cost within reasonable limits. More extensive experience in operating such plants under various conditions, however, has demonstrated that there are more or less definite limits to the efficiency of water-purification processes, this being especially true when the various economic factors entering into the problem are taken into account. Such experience has, in fact, shown more and more conclusively that these processes, under the economic and other limitations surrounding their operation, can not with reasonable economy be made impervious to the passage of bacteria, nor can they ordinarily be so operated under widely varying conditions of loading as to produce effluents even closely approaching absolute constancy of bacterial content. Thus a purification plant may be likened to a series of barrier screens interposed in the path of polluting matter. The fineness of these "screens" may be increased by careful design of the plant and particularly by its efficient operation, but it can not economically be made infinitely great, to the

extent that the plant becomes an impassable barrier to polluting matter. This being true, a more or less definite relation should exist between the degree of pollution of a given raw water at various times and the bacterial character of effluent produced from it by a purification plant; and from this relation it should be possible to determine, at least empirically, the limits of safe bacterial loading for a given plant or type of plant consistent with its production of an effluent of specified bacterial quality.

The first noteworthy action to this end was that of the International Joint Commission in adopting a bacterial standard of loading for filtration plants purifying Great Lakes waters as its guiding principle in regulating the pollution of the international boundary waters between Canada and the United States. This standard, in substance, provided that the average load upon any one of these plants should be such that the raw water delivered to it should not contain, as a yearly average, more than 500 *B. coli* per 100 cubic centimeters, expressed in terms of the so-called *B. coli* index. In deriving this standard, it was assumed that effluents from purification plants treating Great Lakes waters should satisfy the United States Treasury Department requirements for interstate water supplies with respect to *B. coli* content, which provide that water furnished for drinking purposes by interstate carriers shall not contain more than two *B. coli* per 100 cubic centimeters, as determined by the *B. coli* index. While the International Joint Commission standard was admittedly a tentative one, derived from broad experience rather than experimental data, it was based upon extremely competent expert opinion and, as will be noted later, its general reasonableness was confirmed rather closely by subsequent experiment.

About a year after the formulation of this standard, the United States Public Health Service, in connection with an extensive study of stream pollution in the Ohio River, made a study, extending over about a year, of the operation of two modern and efficiently managed filtration plants taking their raw water supplies from this stream. The main object of this study was to determine by careful observation, under actual operating conditions from day to day, the maximum loading in bacterial terms which can safely be imposed upon filtration plants purifying Ohio River water. It was believed that this loading, if found to be measurable, should furnish the best criterion available for fixing permissible limits of pollution for this river, after allowing for such factors as dilution and self-purification, which were made an object of extensive separate study. Without entering into details of the filtration plant study, it is proposed to refer briefly here to certain observations made and conclusions reached which have an important bearing on the present discussion.

Perhaps the most interesting, and certainly the most important,

observation made in connection with this study was the close correlation found to exist between the bacterial content of the influent and that of the effluent of both the purification process as a whole and its various separate steps. At one of the two plants, where the water is not chlorinated until after filtration, the correlation between raw water and filter effluent prior to chlorination was found to be particularly high, though in general it was also high enough as between raw water and final disinfected effluent to satisfy by an ample margin the usual statistical tests for correlation, such as the Pearson coefficient.

By grouping the data according to weekly average numbers of bacteria observed in the raw water, and averaging coincident numbers in raw water and final effluent falling into each group, the correlation was shown as in Table I, the method here employed being the common "method of grouping" used by statisticians in studying the nature of relations existing between two variables. It will be noted in connection with Table I that an increase in bacterial content of the raw water is accompanied by an increase in the final effluent content, though the latter is not in direct proportion, as is indicated by the coincident decrease in the percentage of bacterial numbers remaining in the final effluent.

TABLE I.—*Relation between average numbers of bacteria in raw water and in final effluent, with varying amounts of the former.*

[Effect of chlorination included.]

	Raw water count (range).	Average count.		Per cent in final effluent.
		Raw water.	Final effluent.	
Gelatin counts (20° C.) (bacteria per cc.) . . .	0 to 2,500	1,420	30	2.11
	2,501 to 5,000	3,680	36	.98
	5,001 to 10,000	7,330	52	.71
	Over 10,000	26,400	65	.25
Agar counts (37° C.) (bacteria per cc.)	0 to 1,000	574	7	1.22
	1,001 to 2,000	1,460	13	.89
	2,001 to 4,000	2,790	20	.72
	Over 4,000	6,800	30	.44
B. coli count (37° C.) (B. coli per 100 cc.)	0 to 1,000	808	2.3	.256
	1,001 to 5,000	3,229	3.1	.096
	5,001 to 20,000	8,270	4.5	.054
	Over 20,000	30,900	6.0	.019

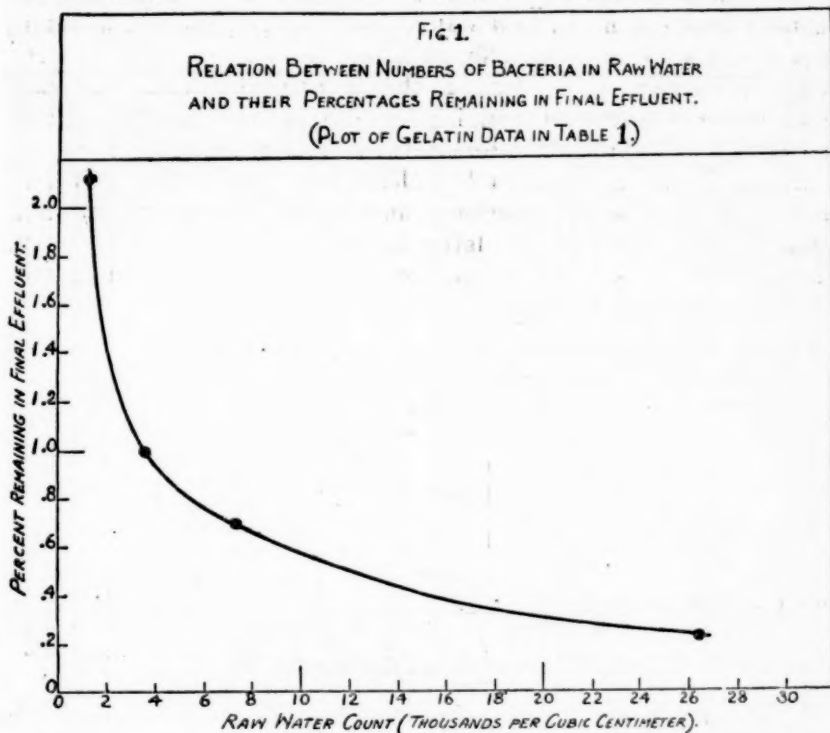
In Figure 1 is shown a plot of the percentage figures in terms of the gelatin 20° count. It is noted that these tend to approach a minimum value as the raw-water count increases, indicating that the efficiency of purification tends with increased loading to approach a more or less well-defined maximum. The curve shown in Figure 1 is typical of similar curves defined by the 37° and *B. coli* counts in Table I.

By plotting the bacterial figures for raw water and effluent as given in Table I on logarithmic ordinate and abscissa scales, the

correlated values are found to plot along paths closely following straight lines, indicating that the relation between the two variables is that of a power function having the simple formula:

$$E = c R^n$$

in which (E) represents the bacterial content of the effluent, (R) that of the influent, and (c) and (n) constants defining, roughly, the average efficiency of purification and the relative constancy of effluent under different loadings, respectively. In general, the higher the value of (c) the lower will be the average efficiency of



purification, whereas the higher the value of (n) the less uniform is the character of effluent obtained under different loadings. The above relation is very similar to that which was found by Wolman² to govern the bacterial efficiency of a number of filtration plants in Maryland under different loadings, though his observation that the value of (c) approaches unity with sufficient closeness to be safely disregarded was not confirmed in the case of the two Ohio River plants, as is indicated in Table II, giving values of the constants (c) and (n) derived from the plots in Figure 2.

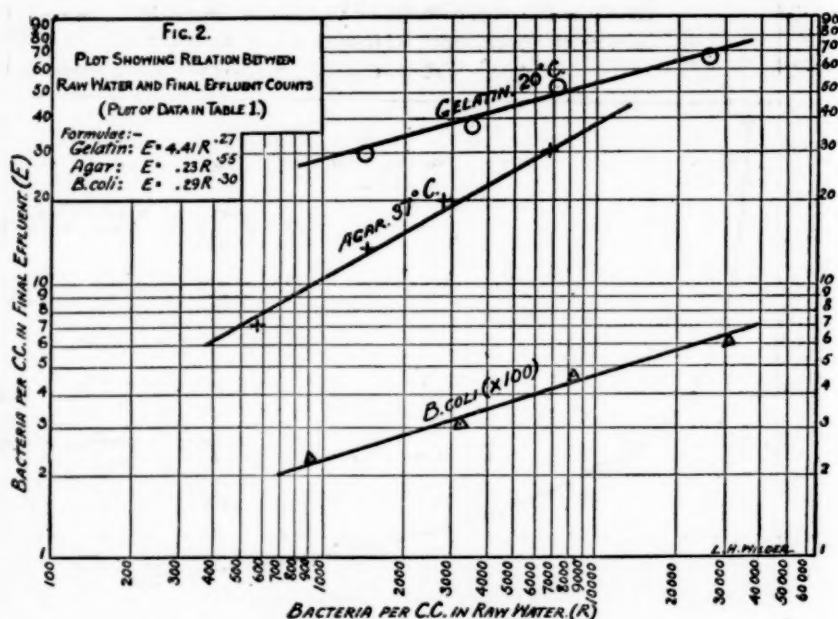
²Jour. Am. W. W. Assoc., September, 1918.

TABLE I.—Values of constants (c) and (n) in formula, $E=c R^n$, defining bacterial efficiency of entire purification process, including chlorination.

[Derived from plots in Fig. 2.]

	(c)	(n)
Gelatin count.....	4.41	0.27
Agar count.....	.23	.55
B. coli.....	.29	.30

When the data obtained from the Ohio River study were analyzed for each step of the purification process in a similar manner to that noted above, it was found that the relation between influent and effluent with respect to bacterial content was in each case governed



by the same power function formula that has been described. In Table III, values of (c) and (n), based upon the *B. coli* relations, are given for each of the four steps of the purification process, the plots from which they were derived being omitted for brevity.

TABLE III.—Values of constants (c) and (n) in Formula, $E=c R^n$, for various steps of purification process.[Based on *B. coli* data in Table I.]

	(c)	(n)
Plain sedimentation.....	7.10	0.66
Coagulation.....	.31	.65
Filtration.....	1.11	.37
Chlorination.....	1.32	.44

It will be noted that the loading constants above described have been derived wholly from bacterial correlations, taking no account of the effect of suspended matter, which is a powerful factor in the efficiency of all water-purification processes. In the absence of further evidence, the point might well be taken that what has appeared as a function of bacterial numbers independently is, in reality, one of suspended matter, the bacterial correlations holding good in a given case because in the purification of natural waters quantitative changes in these two kinds of constituents follow each other more or less closely. If this were true, loading curves based upon bacterial correlations alone might not necessarily apply to even the same raw water if its degree of bacterial pollution as related to its suspended matter content were to change materially. If, on the other hand, the bacterial correlation were found to hold independently of the turbidity correlation, the fact that the latter also exists would not vitiate the applicability of the former.

TABLE IV.—*Relative effects of variations in raw-water turbidity and bacterial content upon percentages of raw-water bacteria remaining in coagulated water.*

Bacteria per c. c., raw water.	Percentages of raw-water bacteria remaining in coagulated water with raw-water turbidities of—			
	50-100 ppm.	100-250 ppm.	250-500 ppm.	500-1,000 ppm.
A. 1,000-2,500.....	14.4	8.3	.....	.....
B. 2,501-5,000.....	8.4	8.9	7.2	.....
C. 5,001-10,000.....	.....	.....	3.3	3.8

NOTE.—Bacterial figures grouped primarily according to raw-water turbidity; then results in each turbidity group regrouped according to raw-water bacterial content (Groups A, B, and C).

In order to test this matter, observations similar to those previously cited were first divided into groups according to raw-water turbidity, each group having a rather narrow turbidity range, but presenting a wide variation in bacterial numbers. The data for each one of these groups were then subdivided into a series of secondary groups according to raw-water bacterial content. An example of the results obtained is given in Table IV, based on a correlation of raw and coagulated waters. It is noted in this table that, excepting in Group A, little variation in the percentages of residual bacteria occurs with increasing raw-water turbidity, whereas a well-marked decrease in these percentages takes place with increasing raw-water bacterial content, indicating that, in general, the correlation between influent and effluent with respect to bacterial content is little affected by variations in turbidity when these are unaccompanied by similar variations in bacterial numbers. From the above and other results obtained in similar analyses of the data, it was apparent that the influent-effluent correlation holds more or less independently with respect to bacterial content as far as the

influence of visible turbidity is concerned; although if it were possible to measure turbidity so finely divided and small in amounts as to be beyond the limits of visibility of present turbidimetric apparatus, it might be found that the numbers of bacteria in apparently clear filter effluents were closely related to their ultraviolet suspended-matter content. However this may be, the evidence of the above observations points to the fundamental nature of the bacterial correlation between influent and effluent such as has been described.

It is next proposed to show how this correlation may be utilized in a practical way as a basis of predicting the probable loading conditions under which water-purification plants to which a given set of loading constants are applicable are likely to become overburdened, as far as their producing effluents of specified bacterial quality is concerned.

If it be assumed that the values of (c) and (n) given in Table II define a set of standard loading curves for purification plants taking their raw-water supplies from the Ohio River, for example, the maximum loading values for these plants consistent with their production of effluents having any given bacterial content are readily ascertainable from the general formula that has been given. In Table V a series of such values is given. By referring to the *B. coli* figures in this table, it is noted that in order consistently to furnish effluents conforming to the Treasury Department standard, purification plants taking their raw-water supplies from the Ohio River should have delivered to them water containing not more than an average of 650 *B. coli* per 100 cubic centimeters, which corresponds quite closely with the International Joint Commission loading standard, previously cited, and thus affords an experimental confirmation of its general reasonableness. The close correspondence of these two criteria when applied on a common basis is both interesting and significant, in view of their different methods of derivation and the wide differences existing between the two classes of waters for which the criteria were derived.

TABLE V.—Maximum bacterial loadings consistent with production of effluents containing not more than specified numbers of bacteria, as defined by values of (c) and (n) in Table II.

Gelatin, 20° C. (bacteria per c.c.).		Agar, 37° C. (bacteria per c.c.).		B. coli (per 100 c.c.).	
Final effluent.	Raw water.	Final effluent.	Raw water.	Final effluent.	Raw water.
30	1,200	10	130	2	650
40	3,400	20	3,300	3	2,500
50	7,600	30	6,800	4	6,600
70	26,000	50	17,000	5	14,000
100	95,000	70	31,000	7	42,000
		100	58,000	10	140,000

NOTE.—Raw-water figures in round numbers.

A further example of the application of the constants given in Table II is afforded by a rough test that was made of their general applicability as an index of the bacterial efficiency of a group of 13 well-known water-purification plants of the rapid sand, gravity filter type, all located in the Mississippi Valley, where conditions are at least approximately comparable with those along the Ohio River. The test was made by use of published data for these plants given in a tabulation of figures for 25 plants of various types by Hinman.³ One rapid sand plant listed by Hinman and located in the Mississippi Basin (at Columbus, Ohio) was excluded from the test because of its being a combined softening and purification plant. Another (at Appleton, Wis.) was also excluded because its raw-water supply was not regarded as being sufficiently typical of Mississippi Basin waters to be entirely comparable with them. For two of the plants included, use was made of somewhat more complete data relative to 37° and *B. coli* results than were given in Hinman's table. Otherwise, the figures given in his table were used entirely.

TABLE VI.—Comparison of actual average numbers of bacteria in effluents of 13 rapid sand filter plants in Mississippi Basin, with numbers calculated from actual raw-water counts by formula, $E=c R^n$, using values of (*c*) and (*n*) as given in Table II.

Plant.	Gelatin, 20° C. (bacteria per c. c.).			Agar, 37° C. (bacteria per c. c.).			B. coli (B. coli per 100 c. c.).		
	Raw water.	Final effluent.		Raw water.	Final effluent.		Raw water.	Final effluent.	
		Observed.	Calculated.		Observed.	Calculated.		Observed.	Calculated.
Decatur, Ill.	7,200	49	49	2,080	11	16			
Quincy, Ill.				5,000	45	44	78,000	7.0	8.4
Evansville, Ind.	1,250	50	30	3,190	23	20	7,400	4.8	4.1
Louisville, Ky. ^a	25,000	50	70				1,500	.2	2.8
Minneapolis, Minn.	2,250	24	35	775	7	8	3,100	1.7	3.2
St. Louis, Mo.	81,000	170	95	12,000	16	41			
Omaha, Nebr.	20,000	60	65	12,000	50	41			
New Orleans, La.	2,900	38	38	200	14	4	35	.5	.8
Akron, Ohio.	1,830	34	34	246	11	5	130	.9	.6
Alliance, Ohio.	5,000	80	44	1,500	40	13	100	3.3	1.1
Cincinnati, Ohio ^b	13,000	48	58	1,920	19	15	2,140	4.6	2.8
Toledo, Ohio	22,000	34	67				2,340	1.1	2.9
McKeesport, Pa.	3,000	40	39	1,400	7	12			
Average.....	15,440	56	52	3,660	22	19	10,540	2.7	3.0

^a Agar and B. coli figures, average of daily results for one year.

^b Agar figure, average of daily results for one year; B. coli figures, average for 6 years (1912-1917).

The test was made by calculating from Hinman's raw-water figures what the effluent count would be in each case if the efficiency of purification were assumed to be as defined by the values of (*c*) and (*n*) previously cited. The calculated values were then compared with the actual effluent figures as given in Hinman's table, with results as shown in Table VI. With a few exceptions, these results indicate a rather surprisingly close agreement between actual

³ Hinman, J. J., Jr., Jour. Am. W. W. Assoc., June, 1918, Table 2.

and calculated values, considering the variable factors of geographical location, raw-water conditions, and plant operation, which might be expected to produce rather wide deviations in individual cases. To these factors of variation might also be added the factor of slight differences in laboratory methods, which experience has shown may produce wide deviations in bacterial results. The extremely close agreement between the average values shown at the bottom of the table gives the results of the comparison greater significance when all of the factors causing individual divergences in them are taken into account. Although it is hardly probable that loading curves such as have been described could, in their present state of development, be, in fairness, applied as standards of efficiency for individual plants, the evidence cited above would most certainly indicate that they could be safely applied as criteria of safe loading with respect to a group of plants in a given drainage area as a guide for stream-pollution regulation. Such evidence would suggest, moreover, that when further study of the question has advanced sufficiently to justify the more general adoption of loading standards for water-purification plants, they may be found to be more uniform in character and wider in their field of application than might at present be supposed, in view of the known complexity of factors, frequently summed up as "local conditions," which affect the efficiency of different plants.

The formulation of any fixed standards of this kind, however, must finally be governed by whatever standard or set of standards may be adopted relative to the quality of purified water supplies intended for domestic consumption. This is evident from the figures given in Table V, which show that between comparatively narrow limits of variation in the required bacterial quality of filter-plant effluents, the permissible loading factor varies widely. The adoption of any definite policy relative to the limitation of stream pollution, as far as it concerns the protection of water-purification plants, must likewise be governed by a similar standard.

While a discussion of water-supply standards is hardly within the scope of the present paper, it is pertinent to emphasize that any standard which may be adopted relative to the quality of purified water supplies as a criterion for stream-pollution control must, in order to be applicable in a practical way, be expressed in terms similar to those by which both stream-pollution and filter-plant efficiency can be directly measured. In other words, the three variables, filter-plant loading, filter-plant efficiency, and quality of effluent, must be expressed in common terms in order to be mutually convertible. While so-called engineering criteria, such as the sanitary survey, may ultimately become sufficiently developed and correlated to permit the formulation of standards in these matters

expressed in more fundamental terms, virtually the only criterion available at the present time which fulfills the above conditions is the bacteriological determination. With all of their admitted faults, bacterial criteria have the very practical advantage of being in common use; and efforts to improve them will, for the present at least, probably be far more fruitful of practical results than attempts to develop standards of a more fundamental character.

In addition to a definition of standards for filter-plant effluents, further knowledge of the problem discussed in this paper is needed along the following lines:

1. As to the influence of seasonal and climatic factors, type of raw water, relative age of its pollution, and operation conditions upon the efficiency of water-purification plants and upon their limits of safe loading.

2. As to the rôle of chlorination in relation to filtration processes in determining their limiting safe loading.

3. As to the economic limits of water purification as related to stream-cleaning measures.

It was noted in the study of Ohio River plants that seasonal factors, particularly temperature, have an important relation to the efficiency of filtration processes employing coagulation. It has also been commonly observed that seasonal changes in the character of suspended matter carried by many natural streams materially affect the efficiency of purification plants at certain times. As to the possible influences exerted by variations in the type of raw water and relative age of its pollution upon the character of effluents obtainable under given conditions of loading, as measured in bacterial terms, virtually no data are at present available. Knowledge of these matters will be of particular importance in determining what weight should be given to variations in raw-water composition, as related to its average character, in fixing standards of loading for plants in a given locality.

There is, of course, no question of the great importance of chlorination as an aid to water purification, nor can there be any doubt that its general introduction has actually relieved from threatened or existing overburden many plants forced to treat highly polluted waters. A question remains, however, as to whether, in fixing permissible limits for the pollution of raw-water supplies, chlorination should be considered as an integral part of the purification plants drawing upon these supplies or should be held in reserve as a factor of safety. A fairly general agreement on this question is essential to the adoption of loading standards having wide acceptance.

Finally, there remains the question as to what are the economic limits of water purification as related to those measures of stream cleaning which involve extensive sewage treatment programs. Is it,

for example, economically justifiable to seriously consider the development of water-purification plants beyond their present degree of elaboration, in order to increase their limits of safe loading and thereby minimize correspondingly the expenditure of funds for systematic stream cleaning? There are theoretically a number of possible ways of accomplishing this, among which might be noted the construction of large auxiliary storage reservoirs and the use of secondary treatment processes. But these measures would involve greatly added costs of water purification, against which are to be balanced the growing possibilities for securing at a nominal expense a sufficient degree of relief for many overburdened streams through partial treatment of the sewage and other harmful wastes discharged into them. On the latter side of the balance sheet are to be added the benefits to be realized from stream cleaning, in addition to the relief of overburdened water-purification plants. In some cases these may prove to be determining factors in the equation.

In general, however, the most economical solution of problems of this kind must finally depend upon local conditions governing the use of a particular stream for water-supply and sewage-disposal purposes, such as, for example, the distribution of waste-contributing population on its drainage area and its natural dilution and self-purification capacities. A recapitulation of the present cost factors entering into water-purification and sewage treatment, together with data regarding the laws and principles underlying stream pollution and purification phenomena, such as are being gathered by the United States Public Health Service in connection with its stream-pollution studies, will aid very materially in affording a definite basis for the solution of problems of this kind.

In conclusion, it may be reiterated that the excessive loading of water-purification plants in the more populous sections of the country is rapidly assuming the proportions of a widespread and serious problem, in spite of the remarkable progress that has been made in lowering the typhoid-fever rate in a large number of our cities. The discovery and general use of chlorine disinfection as an aid to filtration processes has, in many cases, turned the scale from imminent danger to temporary safety; but it can not be too strongly emphasized that in view of the present trend in the increasing pollution of inland streams the safety thus gained is but temporary. Unless, as appears most unlikely, advances of a revolutionary character should occur in the art of water purification, systematic measures for relieving overpollution of streams used as sources of public water supplies will be necessary in a number of large river systems within a comparatively short time. If these measures are to be scientifically applied, with due regard for the enormous economic interests involved, the fullest possible use must be made of both the natural

purification forces at work in polluted streams and such artificial methods as modern water purification provides. The work of the Public Health Service, which has been referred to rather extensively in this paper, has been consistently aimed toward an evaluation of these measures in fundamental terms. Further studies of loading factors for water-purification processes, however, are needed, somewhat broader in scope and more intensive in their experimental features than those which have thus far been made of the question. The present paper has been written with the hope that it will stimulate discussion and coordinated effort toward this end.

SMALLPOX CONTROL IN RURAL COMMUNITIES.

By L. L. LUMSDEN, Surgeon, United States Public Health Service.

In an account of a smallpox outbreak at Poteau, Okla., based on a report made by Assistant Surg. Thomas Parran, jr., and published in Public Health Reports of March 3, 1922, it is stated that of the five prisoners who broke jail, one was reported to have died in Alabama. It was an interesting coincidence that this escaped prisoner went to a home located in one of the several counties in Alabama, Lauderdale County, in which the Public Health Service is cooperating with the State and local health authorities in a demonstration project in rural health work (see Public Health Reports, Vol. 36, No. 40, pp. 2472 to 2487, of October 7, 1921).

The demonstration project in Lauderdale County, Ala., is directed by a whole-time county health officer, who has a status of field agent in the Public Health Service. In the Monthly Progress Report for January, 1922, sent by this field agent to the Rural Sanitation Office in Washington, it is stated (1) that at a rural home in the county a case of malignant smallpox, which terminated fatally, was found soon after onset of the illness in a man who had come a few days before from Poteau, Okla.; (2) that measures including frequent inspections of known and suspected contacts, isolation, and vaccination were carried out promptly to prevent the spread of the infection; (3) that only one secondary case developed in the neighborhood; and (4) that the secondary case was a mild one in a contact who was vaccinated too late apparently to be given full protection against the infection.

The contrast between the two situations is striking. In Poteau, where there was no whole-time county officer, the virulent smallpox infection from Kansas City, Mo., introduced by one person, spread rapidly, causing 38 cases with 24 deaths. In Lauderdale County, Ala., where there was a whole-time county health officer, the same infection introduced by one person was controlled promptly so that only one mild secondary case resulted.

SMALLPOX MORTALITY IN THE REGISTRATION AREA, 1916-1920.

The Department of Commerce, through the Bureau of the Census, announces that there have been very few deaths from smallpox in recent years. Since the beginning of annual compilations in 1900 the highest rate from this cause in the death registration area of the United States was 6.6 per 100,000 population in 1902; in 1903 it was 4.2, and in 1904, 2.1; since which time the rate for the registration area has never reached 1 per 100,000 population. Much higher rates in certain States and cities, however, clearly show that the danger of smallpox in an unvaccinated population must not be lost sight of. The high rate (9.2) in 1920 in Louisiana should serve as a warning.

Deaths and death rates from smallpox in the registration area (exclusive of Hawaii) and in the registration States, 1916-1920.

Area.	Number of deaths.			Rate per 100,000 population.				
	1920	1919	1918	1920	1919	1918	1917	1916
Registration area.....	508	358	339	0.6	0.4	0.4	0.3	0.2
Registration States ¹ (1916).....	223	143	256	.3	.2	.4	.2	.1
California.....	9	6	3	.3	.2	.1	.5	.4
Colorado.....	10	5	13	1.1	.5	1.4	.1	.2
Connecticut.....	2							
Delaware.....	2		(?)	.9		(?)	(?)	(?)
Florida (total).....	2		(?)	.2		(?)	(?)	(?)
White.....	2		(?)			(?)	(?)	(?)
Colored.....	2		(?)	.6		(?)	(?)	(?)
Illinois.....	15	5	15	.2		.2	(?)	(?)
Indiana.....	17	14	22	.6	.5	.8	.5	(?)
Iowa.....	4	1	26	.2	.1	1.5	.4	.2
Kansas.....	21	17	12	.9	.7	.5	.1	.2
Kentucky (total).....	21	16	11	1.0	.7	.5	.1	.2
White.....	1	1	1		.4	.4	.4	
Colored.....	167	175	18	9.2	9.8	1.0	(?)	(?)
Louisiana (total).....	59	26	7	5.3	2.4	.7	(?)	(?)
White.....	108	149	11	15.4	21.2	1.6	(?)	(?)
Colored.....		2			.3			
Maine.....								
Maryland (total).....							.1	
White.....							.1	
Colored.....								
Massachusetts.....	2	2	1	.1		(?)	.3	.1
Michigan.....	11	10	16	.3	.3	.5		
Minnesota.....	17	9	10	.7	.4	.4	.9	(?)
Mississippi (total).....	45	8	(?)	2.5	.4	(?)	(?)	(?)
White.....	24		(?)	2.8		(?)	(?)	(?)
Colored.....	21	8	(?)	2.3	.9	(?)	(?)	(?)
Missouri.....	28	17	83	.8	.5	2.5	.9	.3
Montana.....	2	9	6	.4	1.7	1.1	1.2	.4
Nebraska.....	22	(?)	(?)	1.7	(?)	(?)	(?)	.2
New Hampshire.....								
New Jersey.....								
New York (total).....	1		2	(?)		(?)	(?)	(?)
White.....	1		2	(?)		(?)	(?)	(?)
Colored.....								
North Carolina (total).....	28	9	3	1.1	.4	.1	.5	.5
White.....	21	6	2	1.2	.3	.1	.4	.3
Colored.....	7	3	1	.9	.4	.1	.9	1.1
Ohio.....	17	10	22	.3	.2	.4	.2	.1
Oregon.....	10	2		1.3	.3		(?)	(?)
Pennsylvania (total).....	1	1	2	(?)	(?)	(?)		
White.....	1	1	1	(?)	(?)	(?)		
Colored.....			1			.4		

¹ Includes the District of Columbia.

² Not admitted to the registration area until a later date.

³ Less than one-tenth of 1 per cent.

Deaths and death rates from smallpox in the registration area (exclusive of Hawaii) and in the registration States, 1916-1920—Continued.

Area.	Number of deaths.			Rate per 103,000 population.				
	1920	1919	1918	1920	1919	1918	1917	1916
Rhode Island.....			1			.2		.2
South Carolina (total).....	2	4	2	.1	.2	.1		.2
White.....	1	2		.1	.2			
Colored.....	1	2	2	.1	.2	.2		.5
Tennessee (total).....	12	15	16	.5	.6	.7	.2	(²)
White.....	9	11	11	.5	.6	.6	.2	(²)
Colored.....	3	4	5	.7	.9	1.1	.2	(²)
Utah.....	13	4	10	2.9	.9	2.3	.0	
Vermont.....								.3
Virginia (total).....	12	9	5	.5	.4	.2	.1	(²)
White.....	9	5	1	.6	.3	.1	.1	.1
Colored.....	3	4	4	.4	.6	.6		
Washington.....	18	8	4	1.3	.6	.3	.1	.1
Wisconsin.....	10	5	12	.4	.2	.5	.1	.1

• Not admitted to the registration area until a later date.

• Less than one-tenth of 1 per cent.

CASES OF INFLUENZA REPORTED BY STATES, 1922.

The accompanying table shows, by weeks, the number of cases of influenza reported by State health officers from January 22 to March 25, 1922.

On pages 640-641 of the Public Health Reports for March 17, 1922, appears a table giving the number of cases of influenza reported by State health officers during the first 10 weeks of the years 1920, 1921, and 1922.

The aggregate estimated population of the 28 States and the District of Columbia is approximately 67,200,000.

Number of cases of influenza reported by States from Jan. 22 to Mar. 25, 1922, inclusive, by weeks.

State.	Number of cases reported during week ended—								
	January.	February—				March—			
	28	4	11	18	25	4	11	18	25
Alabama.....	3	26	95	29	20	31	185	340	177
Arkansas.....	88	102	232	158	202	371	409	529	1,032
California.....	48	92	845	4,315	10,033	9,917	4,627	3,289	1,169
Colorado (exclusive of Denver).....	2	4	0	17	12	67	937	753	146
Connecticut.....	22	109	518	1,325	675	711	485	194	146
Delaware.....	2	7	2	2	9	.....	2	16	38
District of Columbia.....	7	5	9	8	7	9	9	3	4
Florida.....	6	15	35	123	118	68	72	74	57
Georgia.....	64	74	81	128	162	179	149	268	470
Illinois.....	125	108	417	633	1,069	809	735	765	686
Kansas.....	121	364	440	480	901	626	557	524	321
Kentucky.....	51	332	640	705	748	1,088	495	548	398
Louisiana.....	8	10	39	36	368	469	1,603	3,327	3,669
Maine.....	14	97	145	131	441	487	352	223	222
Maryland.....	93	110	189	263	431	612	814	728	409
Massachusetts.....	66	398	1,469	1,764	1,285	904	521	292	190
Minnesota.....	.....	2	12	10	44	71	209	245	16
Missouri.....	20	71	99	234	313	405	279	491	303
Montana.....	.....	1	.....	.....	188	178	263	674	435
Nebraska.....	.....	6	6	10	161	66	119	157	164
New Jersey.....	125	425	1,288	1,555	918	512	221	117	97
New Mexico.....	.....	10	14	35	92	304	209	437	1,534
New York (exclusive of New York City).....	173	694	771	1,577	1,508	1,774	1,973	1,796	1,424
New York City.....	1,230	5,731	7,070	3,284	1,312	592	310	173	120
Oregon.....	7	31	168	442	616	782	250	158	126
Texas.....	5	57	141	123	76	353	1,181	240	237
Vermont.....	1	7	2	12	1	2	15	9	9
Washington.....	33	176	1,031	902	360	389	81	116	17
West Virginia.....	.....	.....	62	50	82	445	178	143	98
Wisconsin.....	22	24	37	22	73	129	321	543	772
Total.....	2,337	9,179	15,893	18,382	22,285	22,352	17,562	17,374	14,486
Number of States reporting cases.....	24	28	28	28	29	28	29	29	29

DEATHS FROM INFLUENZA AND PNEUMONIA COMBINED.

IN CERTAIN LARGE CITIES OF THE UNITED STATES, JANUARY 22 TO MARCH 25, 1922.

The accompanying table gives the number of reported deaths from influenza and pneumonia (all forms) combined, by weeks, from January 22 to March 25, 1922, inclusive, in 63 large cities of the United States.

The data were furnished by city health officers. Use was made of the figures contained in the "Weekly Health Index," issued by the Bureau of the Census, in supplying deficiencies in the figures.

On pages 642-644 of the Public Health Reports for March 17, 1922, appears a table giving the number of deaths from influenza and pneumonia (all forms) combined, in 36 of these cities during the first 10 weeks of the years 1919, 1920, 1921, and 1922.

The population of the 63 cities, estimated as of July, 1921, is approximately 27,500,000.

Number of deaths from influenza and pneumonia (all forms) combined, in large cities, from Jan. 22 to Mar. 25, 1922, inclusive, by weeks.

City.	Number of deaths reported during week ended—								
	Janu- ary.	February—				March—			
	28	4	11	18	25	4	11	18	25
Birmingham, Ala.....	6	13	4	4	14	9	7	7	10
Los Angeles, Calif.....	21	26	29	33	79	84	69	64	43
Oakland, Calif.....	6	8	8	12	12	16	18	11	6
San Francisco, Calif.....	12	9	15	36	70	51	31	22	9
Denver, Colo.....	17	18	16	19	22	26	40	29	26
Bridgeport, Conn.....	3	4	3	8	19	9	5	9	9
Hartford, Conn.....	2		3	7	4	6	4	1	
New Haven, Conn.....	4	13	10	14	30	27	23	23	15
Wilmington, Del.....	5	9	8	6	8	8	9	1	7
Washington, D. C.....	27	25	22	27	26	27	22	21	24
Atlanta, Ga.....	7	20	17	11	16	13	20	12	33
Chicago, Ill.....	65	72	80	56	94	139	150	130	92
Indianapolis, Ind.....	17	29	42	39	38	36	24	29	10
Kansas City, Kans.....	6	5	5	13	21	16	11	5	7
Louisville, Ky.....	7	16	24	28	25	19	16	15	11
New Orleans, La.....	13	19	25	20	19	31	52	37	33
Baltimore, Md.....	26	29	27	29	40	47	71	63	38
Boston, Mass.....	28	33	38	51	83	84	61	67	42
Cambridge, Mass.....	4	7	7	8	9	8	16	4	5
Fall River, Mass.....	6	5	7	9	22	29	24	15	18
Lowell, Mass.....	4	4	6	5	13	11	4	5	1
New Bedford, Mass.....	1	1	5	8	8	25	13	13	11
Springfield, Mass.....	4	7	0	6	5	8	9	8	8
Worcester, Mass.....	7	16	16	16	15	13	4	5	4
Detroit, Mich.....	33	34	54	45	71	93	104	86	70
Grand Rapids, Mich.....		4	2	1	2	5	3	4	5
Minneapolis, Minn.....	9	6	9	4	8	19	20	31	11
St. Paul, Minn.....	3	8	6	6	5	9	18	29	17
Kansas City, Mo.....	25	25	28	39	71	52	41	34	22
St. Louis, Mo.....	42	44	58	68	71	108	83	83	59
Omaha, Nebr.....	12	16	12	11	17	16	9	6	10
Camden, N. J.....	7	11	4	3	12	4	7	9	8
Jersey City, N. J.....	14	25	30	28	34	20	20	14	8
Newark, N. J.....	20	33	33	46	37	28	20	15	20
Paterson, N. J.....	8	11	16	19	23	12	11	12	5
Trenton, N. J.....	11	22	23	10	24	13	3	8	8
Albany, N. Y.....		6	13	7	8	10	13	10	9
Buffalo, N. Y.....	19	21	15	15	20	22	36	31	30
New York, N. Y.....	302	481	596	576	548	404	331	287	282
Rochester, N. Y.....	14	6	7	14	11	11	18	26	25
Syracuse, N. Y.....	6	7	7	7	6	7	3	5	5
Yonkers, N. Y.....	7	9	12	18	9	7	4	2	4
Akron, Ohio.....	4	4	4	6	11	17	9	10	10
Cincinnati, Ohio.....	19	21	27	41	54	49	42	32	26
Cleveland, Ohio.....	28	25	18	25	60	55	61	62	44
Columbus, Ohio.....	10	8	6	10	11	13	20	19	10
Toledo, Ohio.....	12	7	6	5	6	10	15	19	19
Youngstown, Ohio.....	9	12	11	11	8	13	17	16	19
Portland, Oreg.....	6	5	15	17	27	32	28	25	21
Philadelphia, Pa.....	86	85	91	101	162	136	143	134	93
Pittsburgh, Pa.....	47	60	80	109	99	92	60	38	43
Providence, R. I.....	17	11	15	26	32	39	19	22	13
Memphis, Tenn.....	12	10	18	16	21	21	7	13	11
Nashville, Tenn.....	3	5	5	4	10	17	16	12	15
Dallas, Tex.....	7	12	9	7	12	19	15	10	14
Fort Worth, Tex.....	2	11	2	10	9	5	7	9	2
Houston, Tex.....	3	3	5	3	2	3	7	5	14
Salt Lake City, Utah.....	7	5	11	3	10	7	12	12	9
Norfolk, Va.....	5	3	3	4	14	12	11	4	7
Richmond, Va.....	4	8	9	12	21	19	8	8	12
Seattle, Wash.....	5	18	24	39	17	22	13	8	13
Spokane, Wash.....	7	3	4	9	9	12	12	4	
Milwaukee, Wis.....	8	18	11	14	14	11	18	17	15
Total.....	1,131	1,491	1,715	1,854	2,287	2,186	1,987	1,758	1,470
Number of cities reporting deaths.....	61	62	63	63	63	63	63	63	61

SHIP SANITATION AND FIRST AID FOR SEAMEN.

A NEW MANUAL ON SHIP SANITATION AND FIRST AID FOR OFFICERS AND MEN OF THE MERCHANT MARINE.

The Secretary of Commerce has recently approved an amendment to the general rules and regulations prescribed by the Board of Supervising Inspectors, which requires that no candidate for original license as master, mate, pilot, or engineer shall be examined unless he has completed a course of instruction in "first aid" approved by the United States Public Health Service and has passed an oral examination based on a Manual on Ship Sanitation and First Aid recently prepared by the Public Health Service in cooperation with the Seamen's Church Institute, of New York City.

The manual is intended primarily to furnish officers and men of the American merchant marine a simple but comprehensive textbook on ship sanitation and hygiene, an outline of surgical conditions that obtain on shipboard, and fundamental information regarding the treatment of disease. The information contained in the manual will be of greatest value to officers and men of vessels that do not carry a ship's doctor and lack facilities for the care of the sick and injured.

Sanitary conditions on shipboard are, in many instances, not what they should be—conditions that are due largely to ignorance regarding the elementary rules of sanitation and hygiene. Aside from the humanitarian point of view, it is highly desirable from an economic viewpoint that the sanitary conditions be improved. Vessels are often compelled to run shorthanded because of illness in members of the crew that could have been avoided by simple medical treatment or by the application of fundamental sanitary knowledge. It was because of these conditions that the Secretary of Commerce approved the amendment to the regulations requiring that candidates for original licenses as master, mate, pilot, or engineer have "first-aid" knowledge.

Preventive medicine marks a signal advancement in general public health work; and just as the dissemination of its principles has made for improved conditions of life on land, the same practice should contribute toward improvement in sanitation and hygiene on shipboard.

NATIONAL NEGRO HEALTH WEEK.

EIGHTH ANNUAL HEALTH EDUCATION AND CLEAN-UP CAMPAIGN TO BE OBSERVED
APRIL 2-8, 1922.

The National Negro Health Week of 1921 resulted in an increased interest among the colored people in the matter of health improvement, an interest that has been materially stimulated by the "health weeks" of the past few years. A program was prepared which contained a schedule of the daily activities to be carried on and other helpful information. Unfortunately, the number available was insufficient to supply the requests (for 37,280 copies) which came from all sections of the country.

To meet the demand for the 1922 Health Week program, the Tuskegee Institute has appropriated \$200 from its health fund for the purchase of pamphlets containing the program and other information. Other agencies have included quantity purchases in their plans for cooperation. These pamphlets can be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C.

The health and welfare agencies cooperating include the following: The United States Public Health Service, the State boards of health, the National and State medical associations, the National and State associations of graduate nurses, the American Social Hygiene Association, the National Child Welfare Association, the National Tuberculosis Association, the American Red Cross, the National Urban League, the Y. M. C. A. and the Y. W. C. A., the National Federation of Colored Women's Clubs, churches, schools, fraternal societies, insurance companies, and other organizations interested in health welfare and public health education.

SOME RESULTS OF HEALTH EDUCATION AND HEALTH SERVICE.

Madison County, Ala., has a population of 50,000, a large proportion of which is colored. In 1917 the Public Health Service undertook a demonstration in rural sanitation, in cooperation with the State and county health authorities and certain nongovernmental agencies. A strong health department was jointly effected; a public health educational program was carried out; sanitary inspections were made; numerous sanitary privies were installed; many inoculations were performed against typhoid fever and smallpox; and other activities of a public health nature were carried on.

The reduction in deaths for 1919, as compared with the average for the years 1915 to 1917, amounted to over 150 lives. Such a reduction is too great to be explained on the basis of normal fluctuation; a large part of it was apparently due to the public health campaign. The total cost of this demonstration was about \$10,000 a

year. If the 150 lives were saved as a result of the campaign, it cost \$66 to save each life.

In the past eight years, largely through health education and public health nursing, the death rate of the 1,500,000 Negro policy holders of the Metropolitan Life Insurance Co. was reduced 9 per cent. This demonstrates the importance of widespread information on health improvement.

The National Negro Insurance Association, organized in Durham, N. C., October, 1921, has proposed in its program for colored insurance companies the establishment of social service and health departments. Some companies already have and are developing a service of this kind.

It is estimated in the Negro Year Book that 450,000 colored people in the South are seriously ill all the time; that the annual cost of these 450,000 cases of sickness is \$75,000,000; that 225,000 colored people in the South die annually; that the annual expense of these 225,000 deaths is \$25,000,000; that 50 out of every 100 cases of annual sickness can be prevented; that 45 out of every 100 annual deaths can be prevented; that the annual loss of earnings from sickness and deaths is \$300,000,000; that \$150,000,000 in earnings can be saved annually by hygiene and sanitation.

In recent years, especially since the establishment of the National Negro Health Week, the death rate among Negroes has been decreasing.

The 1922 Health Week printed program will contain statistical graphs showing mortality rates in the colored population for certain diseases having very high rates and showing the decline in these rates since the campaign for definite health education and service was instituted.

In accordance with the campaign plans discussed at a meeting of representatives of the national health organizations held during the sessions of the Annual Tuskegee Negro Conference at Tuskegee Institute in January, 1922, the following program was approved:

1922 HEALTH WEEK PROGRAM.

Sunday, April 2: Sermon and Lecture Day. Health sermons and lectures by ministers, physicians, and other qualified persons. Urge the carrying out of the Health Week program. Give references to health information and urge cooperation with organized agencies. Emphasize mother and infant welfare work to reduce high infant mortality.

Monday, April 3: Hygiene Day. Personal and community hygiene talks by physicians, visiting nurses, social workers, and other qualified persons. Social hygiene education and venereal disease control measures should be considered in special meetings. Health

films, slides, and exhibits should be used wherever possible under proper supervision.

Tuesday, April 4: "Swat-the-Fly" Day. Destroy the breeding places of flies and mosquitoes. Talk on the possibility and danger of disease being spread by insects and rats, and describe the methods of destroying these disease carriers. All homes, markets, bakeries, and food establishments should be screened against flies.

Wednesday, April 5: Children's Health Day. Health programs, stories of modern health crusades, parades, etc. It is suggested that, on or before this day, school buildings and premises be put in sanitary condition, and if programs are carried out in school buildings parents and patrons be invited to attend. Some part of the exercises of this day should be devoted to commemoration of the birthday of Booker T. Washington, founder of National Negro Health Week.

Thursday, April 6: Tuberculosis Day. Talks by physicians, visiting nurses, social workers, and other qualified persons. Explain that tuberculosis (consumption) is not hereditary, but is spread through carelessness; that treatment should begin early. Emphasize for prevention: (1) Good cheer, (2) Good food; (3) Fresh air; (4) Proper living.

Friday, April 7: Church Sanitation Day. Clean churches thoroughly inside and out. Clear the yards of all rubbish, etc. Put toilets in sanitary condition. It is suggested that health entertainments or meetings for informal talks on the week's program and the Saturday general clean-up follow the day's work.

Saturday, April 8: General Clean-up Day. Complete all cleaning of homes, buildings, and premises. The community supervising committee should prepare, through its secretary or other person, a report of the results of the Health Week program and send copy or summary to newspapers and cooperating organizations.

It is suggested that a committee be organized in each community to supervise the carrying out of the above program.

References to agencies supplying health information and materials are printed on the back cover of the program.

Requests for other information and suggestions for the campaign should be sent to Dr. R. R. Moton, principal, Tuskegee Institute, Ala.

DEATHS DURING WEEK ENDED MAR. 18, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended Mar. 18, 1922, and corresponding week, 1921. (From the Weekly Health Index, Mar. 21, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Mar. 18, 1922.	Corresponding week, 1921.
Policies in force.....	49, 269, 076	46, 293, 930
Number of death claims.....	11, 727	9, 434
Death claims per 1,000 policies in force, annual rate....	12. 4	10. 6

Deaths from all causes in certain large cities of the United States during the week ended Mar. 18, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Mar. 21, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1921.	Week ended Mar. 18, 1922.		Annual death rate per 1,000, corresponding week, 1921.	Deaths under 1 year.		Infant mortality ratio, week ended Mar. 18, 1922. ¹
		Total deaths.	Death rate. ²		Week ended Mar. 18, 1922.	Corresponding week, 1921.	
Total.....	26,755,781	8,273	16.1	13.6	1,213	1,008	.....
Akron, Ohio.....	* 208,436	47	11.8	10.2	5	8	53
Albany, N. Y.....	115,071	41	18.6	15.4	5	7	112
Baltimore, Md.....	750,864	290	20.1	17.3	41	22	115
Birmingham, Ala.....	186,133	50	14.0	17.1	8	8	.....
Boston, Mass.....	757,634	302	20.8	16.0	55	36	147
Bridgeport, Conn.....	* 143,555	35	12.7	8.7	3	5	37
Buffalo, N. Y.....	519,608	175	17.6	11.9	39	27	153
Cambridge, Mass.....	110,444	30	14.2	13.7	2	5	37
Camden, N. J.....	119,672	36	15.7	17.4	7	7	107
Chicago, Ill.....	2,780,655	863	15.1	12.5	146	111	.....
Cincinnati, Ohio.....	463,418	144	18.6	15.1	19	16	127
Cleveland, Ohio.....	831,138	227	14.2	12.6	44	41	113
Columbus, Ohio.....	245,358	86	18.3	14.7	14	8	148
Dallas, Tex.....	165,282	38	12.0	10.4	4	4	.....
Dayton, Ohio.....	* 152,559	28	9.6	13.2	2	5	34
Denver, Colo.....	263,152	119	23.6	16.8	9	7	.....
Detroit, Mich.....	1,070,450	309	15.1	10.1	54	54	104
Fall River, Mass.....	120,668	66	28.5	18.1	17	14	238
Fort Worth, Tex.....	111,423	25	11.7	.....	5	.....	.....
Grand Rapids, Mich.....	141,197	34	12.6	14.8	4	7	67
Houston, Tex.....	144,340	42	15.2	12.6	7	5	.....
Indianapolis, Ind.....	325,632	111	17.8	10.7	10	10	76
Jersey City, N. J.....	302,788	85	14.6	11.9	10	11	64
Kansas City, Kans.....	163,884	25	12.5	20.6	4	5	92
Kansas City, Mo.....	336,157	111	17.2	10.4	8	12	.....
Los Angeles, Calif.....	614,160	268	22.8	15.2	24	15	100
Louisville, Ky.....	236,083	70	15.5	14.4	13	7	140
Lowell, Mass.....	113,757	35	16.0	15.6	4	7	67
Memphis, Tenn.....	165,656	84	26.4	16.4	19	7	.....
Milwaukee, Wis.....	468,386	108	12.0	9.7	20	17	98
Minneapolis, Minn.....	392,815	143	19.0	15.3	15	12	82
Nashville, Tenn.....	122,636	39	16.7	15.8	7	5	.....
New Bedford, Mass.....	125,012	48	20.0	12.5	7	10	104
New Haven, Conn.....	167,007	62	19.4	11.2	5	2	61
New Orleans, La.....	394,657	149	19.7	15.9	11	17	.....
New York, N. Y.....	5,751,867	1,607	14.6	13.1	264	215	102
Newark, N. J.....	424,885	122	15.0	12.9	10	17	44
Norfolk, Va.....	121,260	34	14.6	10.8	5	0	89
Oakland, Calif.....	226,472	68	15.7	9.2	4	6	50
Omaha, Nebr.....	197,066	57	16.1	12.4	11	6	118
Paterson, N. J.....	137,463	30	11.4	20.1	8	6	123
Philadelphia, Pa.....	1,896,212	619	17.3	15.4	79	68	94
Pittsburgh, Pa.....	602,452	170	14.7	18.0	27	28	86
Portland, Oreg.....	264,859	73	14.4	13.2	6	11	59
Providence, R. I.....	239,645	77	16.8	17.0	12	9	95
Richmond, Va.....	175,686	53	15.7	14.5	7	7	85
Rochester, N. Y.....	305,229	98	16.7	10.6	12	15	92
St. Louis, Mo.....	786,164	272	18.0	13.7	29	6	.....
St. Paul, Minn.....	537,781	90	19.7	13.2	11	7	103
Salt Lake City, Utah.....	121,506	45	19.3	12.9	5	6	75
Seattle, Wash.....	* 315,312	59	9.8	12.9	8	7	68
Spokane, Wash.....	104,442	27	13.5	11.0	4	2	85
Springfield, Mass.....	135,877	47	18.0	16.5	3	6	45
Syracuse, N. Y.....	177,265	43	12.6	12.4	6	8	72
Toledo, Ohio.....	253,696	84	17.3	14.2	6	9	59
Trenton, N. J.....	122,760	40	17.0	13.2	3	5	46
Washington, D. C.....	* 437,571	151	18.0	14.7	22	12	136
Wilmington, Del.....	113,408	23	10.6	12.0	6	2	117
Worcester, Mass.....	184,972	57	16.1	19.2	7	10	76
Yonkers, N. Y.....	163,324	23	11.6	9.6	5	2	104
Youngstown, Ohio.....	139,432	39	14.6	15.3	6	9	79

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.

³ Enumerated population Jan. 1, 1920.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended Mar. 25, 1922.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

ALABAMA.		CALIFORNIA.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Cerebrospinal meningitis—Orange County...	1
Chicken pox.....	68	Diphtheria.....	143
Diphtheria.....	6	Influenza.....	1,169
Dysentery.....	1	Leprosy:	
Hookworm disease.....	203	Los Angeles.....	1
Influenza:		Orange County.....	1
Barbour County.....	55	Lethargic encephalitis—Sacramento.....	1
Bullock County.....	66	Measles.....	20
Geneva County.....	19	Scarlet fever.....	123
Scattering.....	37	Smallpox:	
Lethargic encephalitis.....	1	San Jose.....	10
Malaria.....	6	Scattering.....	26
Measles.....	18	Typhoid fever.....	8
Mumps.....	5		
Pellagra.....	1		
Pneumonia.....	12		
Polio-myelitis.....	1		
Scarlet fever.....	2		
Septic sore throat.....	1		
Smallpox.....	16		
Tuberculosis.....	17		
Typhoid fever.....	12		
Whooping cough.....	2		
ARKANSAS.		COLORADO.	
Chicken pox.....	17		
Hookworm disease.....	15		
Influenza.....	1,032		
Malaria.....	12		
Measles.....	16		
Ophthalmia neonatorum.....	1		
Pellagra.....	4		
Scarlet fever.....	3		
Smallpox.....	8		
Tuberculosis.....	4		
Typhoid fever.....	2		
Whooping cough.....	1		
		CONNECTICUT.	
		Cerebrospinal meningitis.....	3
		Chicken pox.....	29
		Diphtheria:	
		Bridgeport.....	11
		Scattering.....	50
		German measles.....	12
		Influenza.....	146

CONNECTICUT—continued.	
Measles:	Cases.
Hartford.....	44
West Hartford.....	10
New Haven.....	23
Stamford.....	58
Scattering.....	47
Mumps.....	24
Pneumonia (lobar).....	70
Scarlet fever:	
Bridgeport.....	10
New Haven.....	9
Waterbury.....	9
Scattering.....	51
Septic sore throat.....	1
Smallpox:	
Bridgeport.....	11
Scattering.....	9
Tuberculosis (pulmonary).....	39
Typhoid fever.....	3
Whooping cough.....	22

DELAWARE.	
Chicken pox.....	2
Influenza.....	38
Mumps.....	1
Pneumonia.....	4
Scarlet fever:	
Wilmington.....	69
Scattering.....	12
Tuberculosis.....	13
Typhoid fever.....	2

FLORIDA.	
Diphtheria.....	19
Influenza.....	57
Malaria.....	9
Ophthalmia neonatorum.....	1
Polio-myelitis.....	2
Scarlet fever.....	1
Smallpox.....	13
Typhoid fever.....	16

GEORGIA.	
Chicken pox.....	26
Conjunctivitis (infectious).....	1
Diphtheria.....	4
Dysentery (bacillary).....	1
Hookworm disease.....	39
Influenza.....	470
Malaria.....	13
Measles.....	7
Mumps.....	3
Paratyphoid fever.....	2
Pneumonia.....	34
Scarlet fever.....	16
Septic sore throat.....	2
Smallpox.....	34
Tetanus.....	1
Tuberculosis (pulmonary).....	6
Typhoid fever.....	3
Whooping cough.....	9

ILLINOIS.	
Cerebrospinal meningitis:	
Chicago.....	1
Greenville.....	1
Jo Daviess County—Stockton Township.....	1

ILLINOIS—continued.	
Cerebrospinal meningitis—Continued.	Cases.
La Salle County—Grand Rapids Town-ship.....	1
Naples.....	2
Diphtheria:	
Chicago.....	125
Scattering.....	76
Influenza.....	686
Pneumonia.....	458
Polio-myelitis—Sullivan.....	1
Scarlet fever:	
Chicago.....	106
Scattering.....	152
Smallpox:	
Peoria.....	10
Scattering.....	29
Typhoid fever.....	7
Whooping cough.....	92

INDIANA.	
Diphtheria.....	35
Scarlet fever.....	63
Smallpox.....	44
Typhoid fever.....	6

IOWA.	
Diphtheria.....	12
Scarlet fever.....	80
Smallpox.....	21

KANSAS.	
Cerebrospinal meningitis.....	1
Chicken pox.....	70
Diphtheria.....	46
Influenza.....	321
Measles.....	11
Mumps.....	6
Ophthalmia neonatorum.....	1
Pneumonia.....	73
Scarlet fever.....	73
Septic sore throat.....	1
Smallpox.....	23
Tetanus.....	1
Tuberculosis.....	54
Typhoid fever.....	4
Whooping cough.....	21

LOUISIANA.	
Diphtheria.....	10
Influenza.....	3,660
Scarlet fever.....	7
Smallpox.....	17
Typhoid fever.....	8

MAINE.	
Cerebrospinal meningitis.....	2
Chicken pox.....	16
Diphtheria.....	11
Influenza.....	222
Measles.....	1
Pneumonia.....	22
Scarlet fever.....	36
Smallpox.....	1
Tuberculosis.....	8
Typhoid fever.....	2

MARYLAND.¹

Cases.

Cerebrospinal meningitis.....	2
Chicken pox.....	87
Diphtheria.....	33
German measles.....	4
Influenza.....	409
Lethargic encephalitis.....	1
Malaria.....	2
Measles.....	202
Mumps.....	54
Ophthalmia neonatorum.....	2
Pneumonia (all forms).....	191
Scarlet fever.....	70
Tuberculosis.....	58
Typhoid fever.....	5
Whooping cough.....	23

MASSACHUSETTS.

Cerebrospinal meningitis.....	2
Chicken pox.....	111
Conjunctivitis (suppurative).....	13
Diphtheria.....	158
German measles.....	9
Influenza.....	190
Lethargic encephalitis.....	7
Measles.....	505
Mumps.....	98
Ophthalmia neonatorum.....	25
Pneumonia (lobar).....	150
Poliomyelitis.....	4
Scarlet fever.....	214
Septic sore throat.....	3
Tuberculosis (all forms).....	159
Typhoid fever.....	8
Whooping cough.....	129

MINNESOTA.

Chicken pox.....	19
Diphtheria.....	52
Influenza.....	16
Measles.....	30
Pneumonia.....	8
Poliomyelitis.....	1
Scarlet fever.....	169
Smallpox.....	61
Tuberculosis.....	73
Typhoid fever.....	2
Whooping cough.....	9

MISSISSIPPI.

Diphtheria.....	7
Scarlet fever.....	3
Smallpox.....	17
Typhoid fever.....	1

MISSOURI.

Cerebrospinal meningitis.....	4
Chicken pox.....	60
Diphtheria.....	46
Epidemic sore throat.....	13
Influenza.....	303
Measles.....	8
Mumps.....	17
Pneumonia.....	50
Scarlet fever.....	52

MISSOURI—continued.

Cases.

Smallpox.....	12
Trachoma.....	12
Tuberculosis.....	54
Typhoid fever.....	4
Whooping cough.....	5

MONTANA.

Diphtheria.....	7
Influenza.....	435
Scarlet fever.....	29
Smallpox.....	16

NEBRASKA.

Chicken pox.....	18
Diphtheria.....	8
Influenza.....	164
Measles:	

Fillmore County.....	11
Fremont.....	9
Lincoln.....	17
Omaha.....	22
Scattering.....	4
Mumps.....	80
Pneumonia.....	9
Poliomyelitis—Howell.....	1
Scarlet fever:	
Hartington.....	10
Scattering.....	51
Smallpox.....	8
Tuberculosis.....	2
Whooping cough.....	1

NEW JERSEY.

Anthrax.....	1
Cerebrospinal meningitis.....	2
Chicken pox.....	115
Diphtheria.....	121
Influenza.....	97
Leprosy.....	1
Measles.....	603
Pneumonia.....	170
Scarlet fever.....	306
Typhoid fever.....	3
Whooping cough.....	76

NEW MEXICO.

Chicken pox.....	6
Conjunctivitis.....	4
Diphtheria.....	18
Influenza.....	1,534
Measles.....	2
Mumps.....	2
Pneumonia.....	32
Scarlet fever:	
Albuquerque.....	11
Scattering.....	4
Smallpox.....	2
Tuberculosis.....	24
Whooping cough.....	4

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis.....	3
Diphtheria.....	127
Influenza.....	1,424

¹ Week ended Friday.

NEW YORK—continued.		VERMONT.	
	Cases.		Cases.
Lethargic encephalitis.....	2	Chicken pox.....	20
Measles.....	392	Diphtheria.....	2
Pneumonia.....	592	Influenza.....	9
Poliomyelitis.....	3	Lethargic encephalitis.....	2
Scarlet fever.....	270	Measles.....	8
Typhoid fever.....	7	Mumps.....	21
Whooping cough.....	203	Pneumonia.....	14
		Scarlet fever.....	22
		Whooping cough.....	11
NORTH CAROLINA.		VIRGINIA.	
Cerebrospinal meningitis.....	3	Smallpox—Smyth County.....	1
Chicken pox.....	222		
Diphtheria.....	31	WASHINGTON.	
Measles.....	31	Chicken pox.....	32
Poliomyelitis.....	1	Diphtheria.....	8
Scarlet fever.....	27	Influenza.....	17
Septic sore throat.....	5	Measles.....	1
Smallpox.....	67	Mumps.....	63
Typhoid fever.....	4	Pneumonia.....	2
Whooping cough.....	123	Poliomyelitis—Lewis County.....	1
		Scarlet fever.....	25
OREGON.		Smallpox:	
Cerebrospinal meningitis.....	1	Spokane.....	11
Chicken pox.....	32	Scattering.....	45
Diphtheria:		Tuberculosis.....	23
Portland.....	8	Typhoid fever.....	1
Scattering.....	8	Whooping cough.....	14
Influenza.....	123		
Lethargic encephalitis.....	1	WEST VIRGINIA.	
Measles.....	5	Diphtheria.....	17
Mumps.....	8	Influenza:	
Pneumonia.....	113	Fairmont.....	31
Scarlet fever:		Princeton.....	30
Portland.....	10	Scattering.....	37
Scattering.....	4	Scarlet fever.....	6
Septic sore throat.....	3	Smallpox.....	2
Smallpox:			
Portland.....	17	WISCONSIN.	
Scattering.....	3	Milwaukee:	
Tuberculosis.....	5	Chicken pox.....	28
Typhoid fever.....	3	Diphtheria.....	10
Whooping cough.....	12	German measles.....	2
		Lethargic encephalitis.....	1
SOUTH DAKOTA.		Measles.....	1
Chicken pox.....	6	Pneumonia.....	10
Diphtheria.....	9	Scarlet fever.....	6
Influenza.....	56	Smallpox.....	1
Measles.....	3	Tuberculosis.....	12
Pneumonia.....	3	Whooping cough.....	55
Scarlet fever.....	17	Scattering:	
Smallpox.....	19	Chicken pox.....	49
Tuberculosis.....	10	Diphtheria.....	28
Typhoid fever.....	3	German measles.....	9
		Influenza.....	772
TEXAS.		Measles.....	3
Diphtheria.....	17	Ophthalmia neonatorum.....	7
Influenza.....	237	Pneumonia.....	1
Measles.....	98	Poliomyelitis.....	1
Pneumonia.....	31	Scarlet fever.....	98
Smallpox.....	14	Smallpox.....	39
Typhoid fever.....	3	Tuberculosis.....	15
		Typhoid fever.....	2
		Whooping cough.....	30

1 Deaths.

Delayed Reports for Week Ended Mar. 18, 1922.

DISTRICT OF COLUMBIA.		KENTUCKY—continued.	
	Cases.		Cases.
Chicken pox.....	39	Measles—Continued.	
Diphtheria.....	7	Scott County.....	10
Influenza.....	3	Shelby County.....	12
Measles.....	6	Scattering.....	15
Scarlet fever.....	13	Mumps.....	16
Tuberculosis.....	35	Pellagra.....	1
Typhoid fever.....	1	Pneumonia.....	74
Whooping cough.....	8	Scarlet fever.....	11
		Septic sore throat.....	5
		Smallpox:	
		Warren County.....	12
		Scattering.....	13
		Tetanus.....	1
		Tuberculosis:	
		Jefferson County.....	33
		Scattering.....	8
		Typhoid fever.....	4
		Whooping cough.....	7
KENTUCKY.		MAINE.	
Chicken pox.....	16	Chicken pox.....	12
Diphtheria:		Diphtheria.....	7
Jefferson County.....	11	Influenza.....	223
Scattering.....	6	Lethargic encephalitis.....	2
Dysentery (bacillary).....	1	Measles.....	2
German measles.....	1	Mumps.....	1
Influenza:		Pneumonia.....	25
Ballard County.....	29	Scarlet fever.....	43
Bath County.....	27	Smallpox.....	1
Caldwell County.....	43	Tuberculosis.....	6
Carter County.....	26	Whooping cough.....	6
Christian County.....	30		
Graves County.....	23		
Harlan County.....	23		
Jefferson County.....	25		
Madison County.....	74		
Ohio County.....	38		
Scott County.....	31		
Scattering.....	179		
Measles:			
Franklin County.....	17		
Jefferson County.....	37		

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week.

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Pollomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1922.										
Hawaii (February).....	1	14	19		12			5		15
Illinois (February).....	13	1,347	6,982	57	1,285		4	1,784	342	75
Indiana (February).....	7	387	470		83			430	114	16
Iowa (February).....	3	99	2		11		3	339	157	1
Maine (February).....	4	51	911		2		4	211	7	3
Maryland (February).....	5	176	1,268	1	636		3	446		17
Minnesota (February).....	7	253	78		128			820	266	18
Mississippi (February).....	2	73	8,201	3,347	42	164	1	32	108	95
New Jersey (February).....	16	571	4,415	2	942		3	1,387	3	16
New Mexico (January).....	1	130	7	3	7	1		57	7	16
New Mexico (February).....	1	68	170		2	1		55	7	11
New York (February).....	13	1,720	15,328		5,836		12	2,859	15	166
North Carolina (February).....	8	187			124			177	187	20
North Dakota (February).....		17	186		3			139	63	3
Oklahoma (February).....		22	354	15	2	1		25	139	11
Rhode Island (February).....		139	638		11		1	70	1	2
South Carolina (February).....		104	116	3	1	3		9	82	6
South Dakota (February).....	1	41	3		27			169	100	
Washington (February).....	2	102	4,407		16		2	137	323	16
West Virginia (February).....	1	139	2,311		267		2	105	48	48

¹ Exclusive of New York City.

RECIPROCAL NOTIFICATION.

Minnesota—February, 1922.

Cases of communicable diseases referred during February, 1922, to other State health departments by the Department of Health of the State of Minnesota.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Poliomyelitis: Rochester, Olmsted County.	Palmer, Merrick County, Nebr.	Patient contracted disease at Palmer Nebr., Jan. 20, and died Feb. 4, 1922.
Typhoid fever.....	Waterloo Township, Allamakee County, Iowa.	Blood specimen examined in laboratory, Division of Preventable Diseases, showed Widal reaction present. (Origin, Dorchester, Iowa.)
Tuberculosis: Mayo Clinic, Rochester, Olmsted County.	Murpheysboro, Jackson County, Ill. Marshalltown, Marshall County, Iowa. Mandan, Morton County, N. Dak. Brester, Stark County, Ohio. La Valle, Ironton Township, Sauk County, Wis. Woodruff, Oneida County, Wis.	One incipient case, three moderately advanced, and two advanced cases left for their homes.
Minnesota State Sanatorium.	Beulah, Mercer County, N. Dak.	Patient left sanatorium for home.
Northwestern Hospital....	La Crosse, La Crosse County, Wis.	Patient left hospital for home.
Nopeming Sanatorium....	Superior, Douglas County, Wis.	Patient left sanatorium for home.
Pokegama Sanatorium....	Saratoga, Howard County, Iowa.	Do.
Sivertsen Clinic, Minneapolis.	Wilmot, Roberts County, S. Dak.	Advanced case allowed to go home.
Thomas Hospital, Minneapolis.	Midway, Slope County, N. Dak. Bradley, Clark County, S. Dak. Canova, Miner County, S. Dak.	One active case, one mildly advanced, and one incipient allowed to go home.
U. S. Veterans' Hospital No. 65.	Chicago, Cook County, Ill.... Deer Lodge, Powell County, Montana. Medina, Stutsman County, N. Dak. Fargo, Cass County, N. Dak. Sioux Falls, Minnehaha County, S. Dak. Newell, Butte County, S. Dak.	Two active cases, one advanced, one inactive, one unimproved, and one arrested released to go to their homes.

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922.

ANTHRAX.

City.	Cases.	Deaths.
California: Los Angeles.....	1	.....

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 11, 1922.		City.	Median for previous years.	Week ended Mar. 11, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				Michigan:			
San Francisco.....	0	1	.....	Detroit.....	2	.....	1
Santa Barbara.....	0	.....	1	Nebraska:			
Connecticut:				Omaha.....	0	1	1
Bridgeport.....	0	1	.....	New York:			
New Haven.....	0	1	1	Buffalo.....	0	2	.....
Illinois:				New York.....	9	10	2
Chicago.....	1	5	1	Troy.....	0	.....	1
Danville.....	0	1	1	Watertown.....	0	.....	1
Indiana:				North Carolina:			
East Chicago.....	.....	.....	1	Durham.....	6	1	.....
Massachusetts:				Pennsylvania:			
Fall River.....	0	2	1	Philadelphia.....	1	1	1
Malden.....	0	.....	1	Wisconsin:			
New Bedford.....	0	1	.....	Milwaukee.....	1	3	.....

DIPHTHERIA.

See p. 777; also Telegraphic weekly reports from States, p. 763, and Monthly summaries by States, p. 767.

INFLUENZA.

City.	Cases.		Deaths, week ended Mar. 11, 1922.	City.	Cases.		Deaths, week ended Mar. 11, 1922.
	Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.			Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.	
Alabama:				District of Columbia:			
Anniston.....	1	.....	.....	Washington.....	8	9	.....
Montgomery.....	4	.....	.....	Florida:			
Arkansas:				Tampa.....	.....	3	.....
Little Rock.....	1	64	.....	Georgia:			
California:				Albany.....	.....	1	.....
Alameda.....	1	5	1	Atlanta.....	1	93	4
Bakersfield.....	.....	47	3	Macon.....	.....	18	.....
Berkeley.....	7	.....	.....	Rome.....	.....	15	.....
Eureka.....	.....	8	.....	Savannah.....	.....	2	3
Long Beach.....	.....	69	1	Idaho:			
Los Angeles.....	8	1,243	33	Boise.....	.....	75	.....
Oakland.....	10	29	4	Illinois:			
Pasadena.....	.....	76	.....	Alton.....	.....	23	.....
Riverside.....	.....	77	.....	Chicago.....	13	.....	.....
Sacramento.....	4	10	5	Chicago Heights.....	.....	.....	1
San Diego.....	.....	356	10	Cicero.....	.....	1	.....
San Francisco.....	22	121	21	Danville.....	.....	3	.....
Santa Ana.....	.....	90	.....	East St. Louis.....	.....	13	.....
Santa Barbara.....	.....	.....	2	Evanston.....	.....	6	.....
Santa Cruz.....	.....	13	.....	Oak Park.....	.....	1	.....
Stockton.....	4	39	.....	Pekin.....	.....	10	.....
Colorado:				Rockford.....	.....	8	.....
Denver.....	.....	.....	11	Rock Island.....	.....	3	.....
Pueblo.....	.....	.....	2	Springfield.....	.....	2	1
Connecticut:				Indiana:			
Bridgeport.....	.....	13	2	Crawfordsville.....	.....	1	.....
Bristol.....	.....	1	.....	Indianapolis.....	.....	.....	3
Hartford.....	.....	3	.....	Kokomo.....	.....	.....	1
Meriden.....	.....	36	.....	Kansas:			
New Haven.....	.....	9	1	Hutchinson.....	.....	1	.....
New London.....	.....	1	1	Kansas City.....	.....	3	.....
Norwalk.....	.....	.....	1	Lawrence.....	.....	7	.....
Stonington.....	.....	30	1	Parsons.....	.....	1	.....
Waterbury.....	.....	7	1	Salina.....	.....	1	.....
				Wichita.....	1	.....	.....

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 11, 1922.	City.	Cases.		Deaths, week ended Mar. 11, 1922.
	Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.			Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.	
Kentucky:				New Jersey:			
Lexington.....		3		Bayonne.....	2	1	
Louisville.....		67	3	Belleville.....	3		
Louisiana:				East Orange.....		1	
Baton Rouge.....	2			Garfield.....		1	
New Orleans.....	2	70	14	Harrison.....		1	
Maine:				Kearny.....	10	8	
Auburn.....			1	Montclair.....		5	
Bath.....		3		Newark.....	51	118	
Lewiston.....		2		Orange.....	1		
Portland.....			1	Passaic.....		8	1
Sanford.....		143	1	Paterson.....		5	
Maryland:				Plainfield.....		2	
Baltimore.....	169	327	7	Trenton.....		5	1
Cumberland.....		20		West Orange.....	2	2	
Massachusetts:				New Mexico:			
Attleboro.....		4		Albuquerque.....		56	2
Boston.....	14	119	9	New York:			
Braintree.....		21		Albany.....	1	119	
Brookline.....		7		Auburn.....		8	
Cambridge.....		36	4	Binghamton.....		54	
Chelsea.....		2		Buffalo.....	4	73	4
Clinton.....		1		Cohoes.....	1	28	
Danvers.....		1		Hornell.....		1	
Fall River.....	1	20	5	Ithaca.....		16	
Haverhill.....		18		Jamesstown.....		5	
Leominster.....		2		Middletown.....		6	
Lowell.....		5		Mount Vernon.....		10	
Lynn.....		1	1	New York.....	124	310	37
Malden.....		1		Niagara Falls.....		1	
New Bedford.....		18	1	North Tonawanda.....		35	
Newton.....		1		Peeckskill.....	1	4	1
North Adams.....	3	2		Poughkeepsie.....		4	1
Northampton.....		1		Rochester.....		39	2
Pittsfield.....		5	1	Saratoga Springs.....	1	167	
Quincy.....	1	13		Schenectady.....			1
Saugus.....	3			Syracuse.....		2	
Somerville.....		24		Watertown.....		8	
Southbridge.....		7	4	North Carolina:			
Springfield.....		3		Raleigh.....			1
Waltham.....		1		Salisbury.....	2		1
Watertown.....		4		Winston-Salem.....			1
Woburn.....			1	North Dakota:			
Worcester.....	4			Grand Forks.....		2	
Michigan:				Ohio:			
Battle Creek.....	1			Akron.....		8	
Detroit.....	2	112	18	Cambridge.....		1	
Flint.....		6		Canton.....			2
Grand Rapids.....		2		Cincinnati.....	2		
Saginaw.....		1		Cleveland.....		172	9
Minnesota:				Columbus.....		10	1
Minneapolis.....		65	10	East Cleveland.....			1
Rochester.....		1		East Youngstown.....			2
St. Paul.....			5	Hamilton.....		2	1
Winona.....		2		Mansfield.....		1	
Missouri:				Norwood.....		1	1
Independence.....			11	Toledo.....		36	8
Joplin.....		9		Youngstown.....		4	4
Kansas City.....	2	14	12	Zanesville.....			2
St. Joseph.....		2		Oregon:			
St. Louis.....	4	43	19	Portland.....		12	11
Springfield.....			3	Pennsylvania:			
Montana:				Philadelphia.....	14	23	17
Billings.....		56	1	Rhode Island:			
Great Falls.....		16	4	Providence.....		15	3
Missoula.....		244		South Carolina:			
Nevada:				Charleston.....		3	
Reno.....		23		Tennessee:			
New Hampshire:				Chattanooga.....		17	
Dover.....		1		Memphis.....			1
				Nashville.....			2

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 11, 1922.	City.	Cases.		Deaths, week ended Mar. 11, 1922.
	Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.			Week ended Mar. 12, 1921.	Week ended Mar. 11, 1922.	
Texas:				West Virginia:			
Dallas.....	2	17	3	Bluefield.....		1	
Houston.....			3	Charleston.....		12	
Utah:				Fairmont.....		4	
Salt Lake City.....		10	3	Wisconsin:			
Vermont:				Beloit.....		3	
Rutland.....	1			Kenosha.....		13	
Virginia:				Madison.....		1	
Danville.....			2	Oshkosh.....		4	
Norfolk.....	1			Racine.....		2	
Petersburg.....		36		Wausau.....		2	
Richmond.....			2	Wyoming:			
Roanoke.....	10	9	2	Casper.....		18	1
Washington:							
Spokane.....		14					
Walla Walla.....		6					

LEPROSY.

City.	Cases.	Deaths.
California:		
San Francisco.....		1

LETHARGIC ENCEPHALITIS.

California:		
San Francisco.....	1	
Indiana:		
Frankfort.....		1
Massachusetts:		
Lawrence.....	1	1

MALARIA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Louisiana:		
Anniston.....	1		New Orleans.....	2	2
Tuscaloosa.....	7		New York:		
Florida:			New York.....	1	
Tampa.....	4				
Kentucky:					
Owensboro.....	2				

MEASLES.

See p. 777; also Telegraphic weekly reports from States, p. 763, and Monthly summaries by States, p. 767.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Texas:		
Birmingham.....		1	Galveston.....		1
Mobile.....		1	Waco.....		1
Montgomery.....	1				
Michigan:					
Battle Creek.....	1	1			

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

PNEUMONIA (ALL FORMS).

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Indiana:		
Anniston.....	1	7	Crawfordsville.....		2
Birmingham.....		1	East Chicago.....		5
Mobile.....		1	Hammond.....		3
Montgomery.....		2	Huntington.....		2
Arizona:			Indianapolis.....	21	
Tucson.....		5	Kokomo.....	2	
Arkansas:			La Fayette.....	1	
Fort Smith.....		1	Logansport.....	3	
Little Rock.....	7		Muncie.....	3	
California:			South Bend.....	1	
Alameda.....		2	Terre Haute.....	1	
Bakersfield.....		5	Iowa:		
Eureka.....		1	Council Bluffs.....		4
Long Beach.....		2	Kansas:		
Los Angeles.....	106	36	Coffeyville.....	1	
Oakland.....		14	Fort Scott.....		1
Pasadena.....	13	9	Hutchinson.....	3	
Riverside.....		2	Kansas City.....	2	
Sacramento.....		6	Lawrence.....		3
San Bernardino.....		3	Parsons.....	2	1
San Diego.....	13	7	Topeka.....	5	3
San Francisco.....	15	10	Wichita.....		9
Santa Ana.....		2	Kentucky:		
Santa Barbara.....		3	Covington.....		8
Santa Cruz.....		1	Lexington.....		5
Stockton.....		13	Louisville.....		13
Vallejo.....		1	Paducah.....	1	
Colorado:			Louisiana:		
Denver.....		29	Baton Rouge.....	2	1
Pueblo.....		4	New Orleans.....		38
Connecticut:			Maine:		
Bridgeport.....	9	3	Auburn.....		1
Bristol.....		2	Bath.....	3	1
Greenwich.....		1	Biddeford.....		4
Hartford.....	5	4	Lewiston.....		2
Manchester.....	2	1	Portland.....		9
Meriden.....	5	1	Sanford.....	10	1
Milford.....		1	Maryland:		
New Haven.....		22	Baltimore.....	161	64
New London.....	24	3	Cumberland.....	2	1
Norwalk.....		1	Massachusetts:		
Stonington.....		2	Adams.....		1
Waterbury.....	17	9	Amesbury.....	2	
Delaware:			Arlington.....		2
Wilmington.....		9	Attleboro.....		2
District of Columbia:			Belmont.....		1
Washington.....		22	Beverly.....		2
Florida:			Boston.....	78	52
Tampa.....	1		Brookline.....		2
Georgia:			Cambridge.....	14	12
Atlanta.....		16	Chelsea.....	10	6
Rome.....	1		Chicopee.....		2
Savannah.....		5	Clinton.....	1	
Illinois:			Danvers.....	1	
Alton.....	6	2	Everett.....	8	1
Aurora.....	2	1	Fall River.....	22	19
Bloomington.....		1	Frammingham.....		3
Champaign.....	1		Gardner.....	1	
Chicago.....	504	117	Greenfield.....	2	1
Chicago Heights.....		2	Haverhill.....	5	2
Cicero.....		5	Holyoke.....		3
Danville.....	6	4	Lawrence.....		2
East St. Louis.....		8	Leominster.....	1	
Elgin.....		2	Lowell.....	9	4
Evanston.....	7		Lynn.....	15	5
Galesburg.....	7	5	Malden.....	2	
Jacksonville.....		5	Medford.....	4	2
Kewanee.....	4	2	Melrose.....	3	
La Salle.....	2		New Bedford.....		11
Mattoon.....	1		Newton.....		3
Oak Park.....	9		North Adams.....	1	
Pekin.....	2		Northampton.....	3	1
Peoria.....		4	Norwood.....	5	2
Quincy.....	1		Pittsfield.....		1
Rock Island.....	5	3	Plymouth.....		2
Rockford.....		3	Quincy.....		2
Springfield.....	14	10	Salem.....	6	3

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Massachusetts—Continued.			New York—Continued.		
Somerville.....	6	3	Hornell.....	2	1
Southbridge.....		2	Hudson.....		1
Springfield.....	9	2	Ithaca.....	1	
Taunton.....		4	Jamestown.....	5	1
Wakefield.....		1	Lackawanna.....	6	
Waltham.....	2	1	Lockport.....	4	2
Watertown.....		2	Middletown.....	2	1
Webster.....	1		Mount Vernon.....	22	2
Winthrop.....	4	2	Newburgh.....		1
Woburn.....		3	New York.....	574	294
Worcester.....		4	Niagara Falls.....	5	1
Michigan:			North Tonawanda.....	2	
Ann Arbor.....	12	4	Ogdensburg.....		1
Detroit.....	222	86	Peekskill.....	6	2
Flint.....		7	Port Chester.....	5	1
Grand Rapids.....	9	3	Poughkeepsie.....	10	1
Hamtramck.....	7	2	Rochester.....	57	16
Ishpeming.....		1	Rome.....	3	2
Kalamazoo.....	4	1	Saratoga Springs.....	3	
Port Huron.....	3	1	Schenectady.....	7	4
Saginaw.....	7	4	Syracuse.....	22	3
Minnesota:			Troy.....	8	7
Austin.....		1	Watertown.....	6	
Minneapolis.....		10	Watervliet.....		1
St. Paul.....		13	White Plains.....	3	1
Missouri:			Yonkers.....		4
Kansas City.....	49	20	North Carolina:		
St. Joseph.....		16	Durham.....		2
Springfield.....		4	Greensboro.....		2
Montana:			Raleigh.....		1
Anaconda.....		4	Rocky Mount.....		1
Butte.....		15	Wilmington.....	5	2
Great Falls.....	4	3	Winston-Salem.....		3
Missoula.....	7	3	Ohio:		
Nebraska:			Akron.....	14	
Lincoln.....		3	Ashtabula.....		4
Omaha.....		9	Barberton.....		2
Nevada:			Cambridge.....		1
Reno.....		2	Canton.....		3
New Hampshire:			Chillicothe.....		3
Berlin.....	3		Cleveland.....	131	52
Concord.....		1	Columbus.....		19
Dover.....		1	Dayton.....	2	
Nashua.....		2	East Cleveland.....		1
New Jersey:			East Yongetown.....		1
Asbury Park.....		1	Hamilton.....		2
Bayonne.....	1		Ironton.....	2	1
Bloomfield.....	3	1	Kenmore.....	3	
Clifton.....	3	1	Lancaster.....		2
East Orange.....	6		Lima.....		4
Elizabeth.....		3	Mansfield.....	6	1
Garfield.....	2		Martins Ferry.....	2	1
Hackensack.....	4	3	Newark.....		4
Hoboken.....		5	Niles.....	1	
Jersey City.....	17		Piqua.....		1
Kearny.....	3	1	Springfield.....		3
Montclair.....	3	1	Toledo.....		7
Morristown.....		1	Zanesville.....		4
Newark.....	83	20	Oklahoma:		
Orange.....	6	2	Oklahoma.....		6
Passaic.....	7	3	Tulsa.....	1	
Paterson.....	9		Oregon:		
Phillipsburg.....		2	Portland.....		17
Plainfield.....	6	4	Pennsylvania:		
Summit.....	2		Philadelphia.....	158	126
Trenton.....	6	2	Rhode Island:		
West Hoboken.....		1	Cranston.....		2
West Orange.....	2	1	Fawtucket.....		9
New Mexico:			Providence.....		16
Albuquerque.....	22	13	South Carolina:		
New York:			Charleston.....		4
Albany.....	30		Greenville.....		1
Auburn.....	1		South Dakota:		
Binghamton.....	25		Sioux Falls.....		1
Buffalo.....	94	32	Tennessee:		
Cohoes.....	6	1	Memphis.....		6
Fulton.....	1		Nashville.....		14
Glens Falls.....	3	1			

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Texas:			West Virginia:		
Corpus Christi.....	1	.....	Bluefield.....	.....	2
Dallas.....	.....	12	Charleston.....	.....	1
El Paso.....	.....	3	Clarksburg.....	.....	1
Fort Worth.....	.....	7	Huntington.....	.....	1
Galveston.....	.....	2	Parkersburg.....	.....	2
Houston.....	.....	4	Wheeling.....	.....	18
Waco.....	.....	5	Wisconsin:		
Utah:			Beloit.....	.....	1
Salt Lake City.....	.....	9	Kenosha.....	.....	3
Vermont:			Milwaukee.....	21	.....
Burlington.....	.....	1	Oshkosh.....	1	.....
Rutland.....	2	.....	Racine.....	.....	1
Virginia:			Superior.....	.....	3
Alexandria.....	4	.....	Wyoming:		
Danville.....	.....	1	Casper.....	12	3
Norfolk.....	.....	11	Cheyenne.....	.....	1
Petersburg.....	.....	5			
Portsmouth.....	.....	2			
Richmond.....	.....	6			
Roanoke.....	5	2			

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 11, 1922.		City.	Median for pre- vious years.	Week ended Mar. 11, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Illinois:				Michigan:			
Chicago.....	1	1	.....	Detroit.....	0	1	.....
East St. Louis.....	0	1	.....	New York:			
Indiana:				New York.....	0	2	3
Fort Wayne.....	0	1	.....			

RABIES IN ANIMALS.

City.	Cases.
Missouri:	
Kansas City.....	2
New Jersey:	
Plainfield.....	1

SCARLET FEVER.

See p. 777; also Telegraphic weekly reports from States, p. 763, and Monthly summaries by States, p. 767.

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 11, 1922.		City.	Median for previous years.	Week ended Mar. 11, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Missouri:			
Mobile.....	1	7		Kansas City.....	5	6	3
Tuscaloosa.....	0	2		St. Joseph.....	12	1	
Arizona:				St. Louis.....	6	1	
Tucson.....	0		2	Montana:			
California:				Great Falls.....	4	6	
Bakersfield.....	1	4		Nevada:			
Long Beach.....	0	1		Reno.....	3	1	
Oakland.....	1	1		New York:			
Sacramento.....	1	1		Niagara Falls.....	0	1	
San Diego.....	0	2		North Carolina:			
San Francisco.....	16	3		Durham.....	0	6	
Colorado:				Winston-Salem.....	0	3	
Denver.....	11	8	5	Ohio:			
Bridgeport.....	0	9		Bucyrus.....	0	1	
Connecticut:				Dayton.....	0	4	
Fairfield.....		1		Fremont.....	0	3	
Millford.....		6		New Philadelphia.....	0	2	
District of Columbia:				Springfield.....	0	17	
Washington.....	0	4		Toledo.....	7	9	
Florida:				Oklahoma:			
Tampa.....	0	1		Oklahoma.....	10	7	
Georgia:				Oregon:			
Atlanta.....	7	1		Portland.....	7	20	
Brunswick.....	1	1		Rhode Island:			
Savannah.....	0	2		Cranston.....	0	3	
Valdosta.....	3	2		South Dakota:			
Illinois:				Sioux Falls.....	1	5	
Chicago.....	2	4	3	Tennessee:			
Pekin.....	0	2		Nashville.....	0	2	
Peoria.....	1	12		Texas:			
Springfield.....	1	1		Dallas.....	14	1	
Indiana:				Galveston.....	1	1	
Fort Wayne.....	1	1		Houston.....	1	2	
Indianapolis.....	18	1		Waco.....	2	3	
Iowa:				Utah:			
Des Moines.....	4	1		Salt Lake City.....	6	5	
Mason City.....	2	1		Virginia:			
Waterloo.....		1		Roanoke.....	1	1	
Kansas:				Washington:			
Hutchinson.....	1	2		Bellingham.....	2	4	
Kansas City.....	6	2		Seattle.....	5	2	
Wichita.....	10	5		Spokane.....	14	11	
Kentucky:				Tacoma.....	2	17	
Louisville.....	1	1		Walla Walla.....	0	2	
Michigan:				Yakima.....	7	1	
Alpena.....	0	1		Wisconsin:			
Ann Arbor.....	0	1		Madison.....	0	1	
Detroit.....	5	4		Manitowoc.....	0	1	
Flint.....	1	2		Milwaukee.....	4	4	
Muskegon.....	2		1	Oshkosh.....	1	1	
Saginaw.....	0	5		Superior.....	1	11	
Minnesota:				Wausau.....	0	1	
Hibbing.....	0	4					
Minneapolis.....	33	10	1				
St. Paul.....	8	14					
Winona.....	0	1					

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Connecticut:			Pennsylvania:		
Danbury.....		1	Philadelphia.....		1
Greenwich.....	1		Tennessee:		
Georgia:			Chattanooga.....	3	
Rome.....	1				
New Jersey:					
Newark.....	1				
Trenton.....		1			

TUBERCULOSIS.

See p. 777: also Telegraphic weekly reports from States, p. 763.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for pre- vious years.	Week ended Mar. 11, 1922.		City.	Median for pre- vious years.	Week ended Mar. 11, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Nebraska:			
Birmingham.....	0	1	1	Omaha.....	0	1	
California:				New Jersey:			
Los Angeles.....	2	2		Orange.....	0	2	
San Francisco.....	0		1	Trenton.....	0	1	
Stockton.....	0		1	New York:			
Colorado:				Albany.....	1	1	
Pueblo.....	0	2	1	Buffalo.....	2	1	
Connecticut:				Lackawanna.....	0	2	
Manchester.....	0	1		New York.....	10	6	
District of Columbia:				Niagara Falls.....	0	1	
Washington.....	1	1		Troy.....	0	1	1
Florida:				Ohio:			
Tampa.....	2	1		Ashtabula.....	0		1
Georgia:				Cleveland.....	1		
Atlanta.....	0	1		Fremont.....	0	1	
Illinois:				Hamilton.....	0		1
Aurora.....	0	1		Lorain.....	0	1	
Chicago.....	3	7		Pennsylvania:			
Pekin.....	0	1		Philadelphia.....	4	1	
Indiana:				Pittsburgh.....	1	1	
Fort Wayne.....	0	1		Pottstown.....	0	1	
Iowa:				Texas:			
Waterloo.....		1		Galveston.....	1	1	
Louisiana:				Houston.....	0		1
New Orleans.....	2	2		Washington:			
Maryland:				Seattle.....	0	2	
Baltimore.....	3	1		Tacoma.....	0	1	
Massachusetts:				West Virginia:			
Boston.....	2	2		Charleston.....	0	1	
Fall River.....	1	2		Clarksburg.....	1		1
Michigan:				Wisconsin:			
Ann Arbor.....	0	1		Eau Claire.....	0	2	
Detroit.....	6	2	1	Kenosha.....	0	1	1
Saginaw.....	0	2		Marquette.....	0	4	
Minnesota:				Milwaukee.....	1	2	
Minneapolis.....	0	1		Superior.....	0		1
Missouri:							
Independence.....	1	1					
St. Joseph.....	0	1					
St. Louis.....	1	2	1				

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Birmingham.....	178,270	44	6		2				7	6
Mobile.....	60,151	13	1							4
Montgomery.....	43,464	13	1				1		1	
Arizona:										
Tucson.....	20,292	21								7
Arkansas:										
Fort Smith.....	28,811	8	4		1					1
Hot Springs.....	11,695	4								
Little Rock.....	64,997						5		2	
North Little Rock.....	14,048								2	
California:										
Alameda.....	28,806	14					1			1
Bakersfield.....	18,638	13					1			
Eureka.....	12,923	9					2		1	
Long Beach.....	55,593	19	4				2			1
Los Angeles.....	576,673	261	33	2	4		27		57	31
Oakland.....	216,361	74	11	2	3		5		4	2
Pasadena.....	45,354	23					5		3	1
Richmond.....	16,843	4								
Riverside.....	19,341	11								1
Sacramento.....	65,857	34	1				3		3	2
San Bernardino.....	18,721	9							2	2
San Diego.....	74,683	44	8				7		10	3
San Francisco.....	508,410	203	37	2	10		11		38	15
Santa Ana.....	15,485	5					1			1
Santa Barbara.....	19,441	12								
Santa Cruz.....	10,917	6					1			
Stockton.....	40,296	26	1				3		2	2
Vallejo.....	21,107	2	1							
Colorado:										
Denver.....	256,369	134	9		4		8			18
Pueblo.....	42,908	22	3				2			3
Connecticut:										
Bridgeport.....	143,538	39	8		5		11			4
Bristol.....	20,620	8					2			
Danbury (town).....	22,325	8	1							
Derby.....	11,238	5	1	1						
Fairfield (town).....	11,475	1	1		1					
Greenwich (town).....	22,123									
Hartford.....	138,036	53	12		3		3		1	
Manchester (town).....	18,370	5	3		67		5	1	3	2
Meriden (city).....	29,842		5				1		1	6
Milford (town).....	10,193	1	3							
New Haven.....	162,519	84	2		28	1	10		10	3
New London.....	25,688	8	1		5					1
Norwalk.....	27,700	7								1
Stonington (town).....	10,236	3	1		1		1			
Waterbury.....	91,410	31	1		1		16			
Delaware:										
Wilmington.....	110,168	43	1					3		4
District of Columbia:										
Washington.....	437,571	149	7		3		6		39	12
Florida:										
Tampa.....	51,252	15	3							1
Georgia:										
Atlanta.....	200,616	82	1	1			5		2	6
Brunswick.....	14,413	6								1
Macon.....	52,995				5					
Rome.....	13,252						4			
Savannah.....	83,252	32					2			1
Valdosta.....	10,783	2							1	
Idaho:										
Boise.....	21,393	4					5			
Pocatello.....	15,001	2								
Illinois:										
Alton.....	24,682	6	5				1			
Aurora.....	36,397	18	9		13				5	
Bloomington.....	28,725	12								
Chicago.....	2,701,705	855	157	18	204	6	120	3	269	45
Chicago Heights.....	19,653	9								
Cicero.....	44,995	14	1		1		1			
Danville.....	33,750	10	1				1		2	
East St. Louis.....	66,740	23	1	1					4	

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Illinois—Continued.											
Elgin.....	27,454	9					1				
Evanston.....	37,215	10					4				
Forest Park.....	10,768				8		1				
Galesburg.....	23,834	18	1				1				
Jacksonville.....	15,713	14	2							3	
Kewanee.....	16,025	6			1		1		1		
La Salle.....	13,050	3	2								
Mattoon.....	13,552	2					1				
Oak Park.....	39,830	9			7		4				
Pekin.....	12,086		2								
Peoria.....	76,121	30	1		1		2			1	
Quincy.....	35,978	7					4		2		
Rockford.....	65,651	16	4				7			1	
Rock Island.....	35,177	10					3		1	1	
Springfield.....	59,183	33							3	1	
Indiana:											
Anderson.....	29,767	8	4	1			1				
Bloomington.....	11,595	4									
Clinton.....	10,962	6	2								
Crawfordsville.....	10,139	3							1	1	
East Chicago.....	35,967	15	1						1	1	
Fort Wayne.....	39,549	17	1		12		3			2	
Frankfort.....	11,585	6					1		1		
Hammond.....	36,004	7			3		2				
Huntington.....	14,000	8	1				3			1	
Indianapolis.....	314,194	98	10	1	31		10		5	8	
Kokomo.....	30,957	7					4			1	
La Fayette.....	22,486	6								2	
Logansport.....	21,626	9	1				1		1		
Mishawaka.....	15,195	2					1				
Muncie.....	36,624	11	1		1						
South Bend.....	70,983	12							5		
Terre Haute.....	66,083	13					6			1	
Iowa:											
Council Bluffs.....	39,162	16	1							2	
Des Moines.....	126,468		3				8				
Iowa City.....	11,267		1								
Marshalltown.....	15,731						3				
Mason City.....	20,065	4									
Muscatine.....	16,068	7									
Ottumwa.....	23,003						5				
Waterloo.....	36,230		1				4				
Kansas:											
Atchison.....	12,630		2				1				
Coffeyville.....	13,452	2	2				1				
Fort Scott.....	10,693	4	4								
Hutchinson.....	23,293		4				1				
Kansas City.....	101,177		1						2	1	
Lawrence.....	12,456	7			1		1				
Leavenworth.....	16,912		2				1				
Parsons.....	16,028	6	1								
Salina.....	15,085	4									
Topeka.....	50,022	24	5	2			3		4	1	
Wichita.....	72,128	31	2				6	1	1		
Kentucky:											
Covington.....	57,121	22	1		10		1		1		
Lexington.....	41,534	19			10		1			4	
Louisville.....	234,891	74	4	1	56	1	3		16	5	
Paducah.....	21,735						8		1		
Louisiana:											
Baton Rouge.....	21,782	3	1				1				
New Orleans.....	387,219	180	17				2		30	24	
Maine:											
Auburn.....	16,985	4					1				
Bath.....	14,731	4									
Biddeford.....	18,008	7	1								
Lewiston.....	31,791	17	2	1							
Portland.....	69,272	54	7				19	3			
Sanford.....	10,691	5			1						
Waterville.....	13,351		2				1				
Maryland:											
Baltimore.....	733,826	289	33	6	173		44		19	26	
Cumberland.....	29,837	8	2						1	2	

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts:										
Adams.....	12,967	2					2			
Amesbury.....	10,096	5					1			
Arlington.....	18,065	6	1						1	
Attleboro.....	19,731	10								3
Belmont.....	10,749	5								
Beverly.....	22,561	9					3			
Boston.....	748,060	298	70	2	149	2	53		48	19
Braintree.....	10,580	2					3			1
Brookline.....	37,748	13			4		2			
Cambridge.....	109,664	50	3		45		14		3	4
Chelsea.....	43,184	14	1				4		4	
Chicopee.....	36,214	9			9					
Clinton.....	12,979	4							1	
Danvers.....	11,108		1	1			1			
Everett.....	40,120	12	2		16		1		2	1
Fall River.....	120,485	78	9	2			4	1	6	7
Frammingham.....	17,033	14								
Gardner.....	16,971	4			1		1			
Greenfield.....	15,462	9	3	1	12				1	
Haverhill.....	53,884	14	8				2		2	
Holyoke.....	60,203	22			6		3		1	2
Lawrence.....	94,270	26	1		33		1		2	
Leominster.....	19,744	7					1		1	1
Lowell.....	112,479	36	5		4		1		4	1
Lynn.....	99,148	26	1				8		8	5
Malden.....	49,103	11	2		6		1		1	
Medford.....	39,038	13	1		25		2			1
Melrose.....	18,204	3	1				1		1	
Methuen.....	15,189	3			16				1	
New Bedford.....	121,217	46	6	2	2		8		5	3
Newburyport.....	15,618	5			1					
Newton.....	46,064	19			2		4			1
North Adams.....	22,282	5							1	
Northampton.....	21,951	12			1					
Norwood.....	12,027	2					1			
Peabody.....	19,552	4			20		3			
Pittsfield.....	41,751	10	1				2			
Plymouth.....	13,045	5		1						
Quincy.....	47,876	15	2		26		9		1	1
Salem.....	42,529	11					2			1
Somerville.....	93,091	21	1		41		7			
Southbridge.....	14,245	11								
Springfield.....	129,563	30	1		20		4	1	2	2
Taunton.....	37,137	20								1
Wakefield.....	13,025	2	1				5		1	
Waltham.....	30,915	14	2		33		7			
Watertown.....	21,457	6	1		1				1	1
Webster.....	13,258	6					2	1		
West Springfield.....	13,443	2								
Westfield.....	18,604	9			11				4	1
Winthrop.....	15,455	5								
Woburn.....	16,374	8								1
Worcester.....	179,754	34	1				7		4	4
Michigan:										
Alpena.....	11,101		1		1		2			
Ann Arbor.....	19,516	14	3				1		1	
Battle Creek.....	36,164		2		6					
Benton Harbor.....	12,233	2					2			
Detroit.....	963,739	313	56	4	275	15	68	1	42	14
Flint.....	91,599	23	6	1	1		4			
Grand Rapids.....	137,634	40	3				8			
Hamtramck.....	48,615	2	3		3				1	
Ishpeming.....	10,500	3								
Kalamazoo.....	48,858	19	6				17		4	1
Marquette.....	12,718	1								
Muskegon.....	36,570	11	2		1		1			
Pontiac.....	34,273	10	2		27		1			2
Port Huron.....	25,944	12			1					
Saginaw.....	61,903	19	2				2			2
Sault Ste. Marie.....	12,006	3	1				1			
Minnesota:										
Austin.....	10,118	2							1	
Faribault.....	11,089	3								

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
Hornell.....	15,025	1			1					
Hudson.....	11,745	14	3		2		2			
Ithaca.....	17,004	8							1	
Jamestown.....	38,917	17	4		18		1		1	2
Lackawanna.....	17,918	4					2		2	
Lockport.....	21,308	8					6			
Middletown.....	18,420						1		1	
Mount Vernon.....	42,726	10	2		9		10		3	1
Newburgh.....	30,366	7			2		1		3	
New York.....	5,621,151	1,650	230	16	1,665	20	453	7	1,287	103
Niagara Falls.....	50,760	14	5		2		20		1	
North Tonawanda.....	15,482	3	2				1			1
Ogdensburg.....	14,609	4		1						
Peekskill.....	15,868	10	1		5					1
Port Chester.....	16,573	6					1			
Poughkeepsie.....	35,000	18			53				2	2
Rochester.....	295,750	83	5	1	1		3	1	14	3
Rome.....	26,341	15	2		12					1
Saratoga Springs.....	13,181	6					1			
Schenectady.....	88,723	20	2				3		1	
Syracuse.....	171,717	43	14		2		17	1	5	2
Troy.....	72,013	39	7						5	2
Watertown.....	31,285	12					5			
Watervliet.....	16,073	1								
White Plains.....	21,031	6			32		3		1	1
Yonkers.....	100,226	26	4		8		15	2		2
North Carolina:										
Durham.....	21,719	6							1	
Greensboro.....	19,861	4								
Raleigh.....	24,418	8								1
Rocky Mount.....	12,742	5								
Salisbury.....	13,884	14								1
Wilmington.....	83,372	11	1						3	1
Winston-Salem.....	48,395	14					1		1	1
North Dakota:										
Fargo.....	21,961	0								
Ohio:										
Akron.....	208,435	37	4		35		13			
Ashtabula.....	22,082	10								
Barberton.....	18,811	11					1			
Bucyrus.....	10,425	1					1			
Cambridge.....	13,104	10			5		1			
Canton.....	87,091	16	4		16		1			1
Chillicothe.....	15,831	7	1							1
Cleveland.....	798,836	236	22	4	119		51	2	57	19
Columbus.....	257,031	83	6		4		6		5	7
Dayton.....	152,559	61	1				4		1	
East Cleveland.....	27,292	10			2		1		1	
East Youngstown.....	11,257	5								
Findlay.....	17,021	4	2							
Fremont.....	12,438	5								
Hamilton.....	39,675	15			5					2
Ironton.....	14,067	7							2	2
Kenmore.....	12,083		2						2	
Lancaster.....	14,706	5	1	1						
Lima.....	41,506	20	2				4			1
Lorain.....	37,255						3			
Mansfield.....	27,824	13	2				3		1	
Marion.....	27,801		1				1		3	
Martins Ferry.....	11,634	4								
Middletown.....	23,594	5					1		1	1
Newark.....	26,718	12	4		1		1			
New Philadelphia.....	10,718		1							
Niles.....	13,080	0	3							
Norwood.....	24,666	3					2		1	
Piqua.....	15,044	4								
Salem.....	10,505	8								
Springfield.....	60,840	14					3			
Steubenville.....	28,508	14					2			1
Toledo.....	243,100	69	9	2	9		6		2	6
Youngstown.....	132,358	41	1		11		6			2
Zanesville.....	29,569	18	1				4		2	

1 Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued,
DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population January 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oklahoma:										
Oklahoma.....	91,258	26	4				2		3	2
Tulsa.....	72,075		3		9		2			
Oregon:										
Portland.....	258,288	89	6		1		5		4	2
Pennsylvania:										
Allentown.....	73,502		2		1		4			
Altoona.....	69,331		1				3			
Ambridge.....	12,730		1							
Berwick.....	12,181				44					
Bethlehem.....	50,358		6		2		2		1	
Braddock.....	20,879									
Butler.....	23,778		1				1			
Canonsburg.....	10,632								1	
Carbondale.....	18,640				1		1			
Carlisle.....	10,916		1		1					
Carnegie.....	11,516						1			
Carrick.....	10,504				1		1			
Chester.....	58,080						6			
Columbia.....	10,836		2				4			
Connellsville.....	13,804		2				1			
Dubois.....	13,681		1							
Dunmore.....	20,250		1				1			
Easton.....	33,813		2				1		1	
Erie.....	93,372		2		1		3		1	
Farrell.....	15,586						1			
Harrisburg.....	75,917		8		3		1			
Hazleton.....	32,277		1		40		2			
Homestead.....	20,452		1							
Jeannette.....	10,627		2							
Johnstown.....	67,327		6		4		4			
Lancaster.....	53,150		8		5		10			
Lebanon.....	24,643		1				1		1	
McKeesport.....	45,975				3				1	
McKees Rocks.....	16,713						1			
Mahanoy City.....	15,569				2		1			
Monessen.....	18,179		1		1				1	
Mount Carmel.....	17,469		1				1			
Nanticoke.....	22,614		2							
New Castle.....	44,938		1		8		1			
New Kensington.....	11,987				1					
Oil City.....	21,274						1			
Philadelphia.....	1,823,158	651	71	13	25	2	121	1	87	47
Phoenixville.....	10,484						1			
Pittsburgh.....	588,193		25		39		30		21	
Plymouth.....	16,500		1		3					
Pottstown.....	17,431						1			
Pottsville.....	21,876		1		14					
Reading.....	107,784		8				2			
Scranton.....	137,783		6		6		4			
Shamokin.....	21,204				1		1			
Sharon.....	21,747									
Shenandoah.....	24,726		1		1		1		1	
Steelton.....	13,428						1			
Sunbury.....	15,721		1		19					
Tamaqua.....	12,363		2		7					
Uniontown.....	15,662		2		2		2			
Warren.....	14,256		1							
Washington.....	21,480		3							
Wilkes-Barre.....	73,833		4		3					
Wilkesburg.....	24,463						1		1	
Williamsport.....	35,198		2		2		2			
York.....	47,512		4				1		2	
Rhode Island:										
Cranston.....	29,407	7								1
Cumberland (town).....	10,077						1			
Pawtucket.....	64,248	26	5		1					1
Providence.....	257,595	83		2			7			3
South Carolina:										
Charleston.....	67,957	23								2
Columbia.....	37,324				2					
Greenville.....	25,127	5								
South Dakota:										
Sioux Falls.....	25,176	6	5		1		2			

CITY REPORTS FOR WEEK ENDED MAR. 11, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Janu- ary 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Tennessee:										
Chattanooga.....	57, 895	.....	.....	.....	.....	.....	3	.....	.....	.....
Knoxville.....	77, 818	.....	1	.....	27	.....	.....	.....	1	1
Memphis.....	162, 351	47	7	.....	.....	.....	5	.....	7	3
Nashville.....	118, 342	51	1	.....	.....	.....	2	.....	3	3
Texas:										
Corpus Christi.....	10, 522	5	1	.....	.....	.....	.....	.....	.....	2
Dallas.....	158, 976	57	3	.....	102	.....	7	.....	5	3
El Paso.....	77, 543	26	.....	.....	.....	.....	.....	.....	.....	6
Fort Worth.....	106, 482	33	.....	.....	.....	.....	1	.....	2	2
Galveston.....	44, 255	16	1	.....	.....	.....	.....	.....	.....	.....
Houston.....	138, 076	43	1	.....	.....	1	.....	.....	.....	.....
Waco.....	38, 500	15	1	.....	.....	.....	.....	.....	2	2
Utah:										
Salt Lake City.....	118, 110	40	4	.....	1	.....	8	1	1	3
Vermont:										
Barre.....	10, 008	.....	.....	.....	.....	1	.....	.....	.....	.....
Burlington.....	22, 779	6	1	.....	.....	4	.....	.....	1	1
Rutland.....	14, 854	6	.....	.....	.....	.....	.....	.....	.....	1
Virginia:										
Alexandria.....	18, 060	6	1	1	.....	.....	.....	.....	1	2
Danville.....	21, 539	8	.....	.....	1	.....	.....	.....	.....	1
Lynchburg.....	23, 956	.....	1	.....	.....	.....	.....	.....	.....	.....
Norfolk.....	115, 777	3	.....	.....	.....	.....	2	.....	5	2
Petersburg.....	31, 032	11	.....	.....	.....	.....	.....	.....	1	1
Portsmouth.....	54, 357	12	.....	.....	.....	.....	2	.....	.....	1
Richmond.....	171, 667	49	3	.....	15	.....	2	.....	.....	1
Roanoke.....	50, 842	16	5	.....	.....	.....	.....	.....	1	.....
Washington:										
Bellingham.....	25, 570	.....	.....	.....	.....	.....	1	.....	.....	.....
Everett.....	27, 644	.....	.....	.....	.....	.....	1	.....	.....	.....
Seattle.....	315, 652	.....	5	.....	1	.....	5	.....	59	.....
Spokane.....	104, 437	.....	4	.....	.....	.....	5	.....	.....	.....
Tacoma.....	96, 965	.....	1	.....	2	.....	1	.....	.....	.....
Walla Walla.....	15, 503	.....	.....	.....	.....	.....	2	.....	.....	.....
Yakima.....	18, 539	.....	.....	.....	.....	.....	1	.....	.....	.....
West Virginia:										
Bluefield.....	15, 282	11	.....	.....	.....	.....	.....	.....	.....	.....
Charleston.....	39, 698	19	2	1	2	.....	.....	.....	.....	4
Clarksburg.....	27, 869	9	1	.....	2	.....	1	.....	.....	1
Fairmont.....	17, 851	.....	1	.....	1	.....	1	.....	.....	.....
Huntington.....	50, 177	12	.....	.....	.....	.....	.....	.....	.....	.....
Martinsburg.....	12, 515	.....	.....	.....	35	.....	.....	.....	1	.....
Morgantown.....	12, 127	.....	2	.....	.....	.....	.....	.....	.....	.....
Moundsville.....	10, 669	6	.....	.....	6	.....	4	1	.....	.....
Parkersburg.....	20, 050	10	.....	.....	.....	.....	.....	.....	.....	.....
Wheeling.....	54, 322	38	.....	.....	.....	.....	.....	.....	.....	1
Wisconsin:										
Beloit.....	21, 284	4	.....	.....	.....	.....	5	.....	1	1
Eau Claire.....	20, 880	.....	.....	.....	.....	.....	1	.....	1	.....
Fond du Lac.....	23, 427	7	1	.....	.....	.....	.....	.....	1	.....
Janesville.....	18, 293	12	4	.....	.....	.....	1	.....	.....	1
Kenosha.....	40, 472	15	4	1	2	.....	4	.....	.....	1
La Crosse.....	30, 363	.....	1	.....	.....	.....	1	.....	.....	.....
Madison.....	38, 378	.....	.....	.....	3	.....	1	.....	.....	.....
Manitowoc.....	17, 563	.....	.....	.....	1	.....	1	.....	.....	.....
Marinette.....	13, 610	.....	1	.....	.....	.....	.....	.....	.....	.....
Milwaukee.....	457, 147	.....	14	.....	2	.....	10	.....	15	.....
Oshkosh.....	33, 162	10	.....	.....	.....	.....	2	.....	.....	.....
Racine.....	58, 598	12	.....	.....	.....	.....	8	.....	4	1
Sheboygan.....	30, 955	.....	3	.....	.....	.....	.....	.....	1	.....
Stevens Point.....	11, 371	.....	.....	.....	.....	.....	3	.....	.....	.....
Superior.....	39, 624	9	1	.....	.....	.....	4	.....	4	.....
Waukesha.....	12, 558	.....	.....	.....	.....	.....	3	.....	1	.....
Wausau.....	18, 664	.....	.....	.....	.....	.....	.....	.....	1	.....
West Allis.....	13, 765	.....	.....	.....	.....	.....	1	.....	1	.....
Wyoming:										
Casper.....	11, 447	10	.....	.....	.....	.....	.....	.....	1	1
Cheyenne.....	13, 829	4	.....	.....	.....	.....	2	.....	1	1

FOREIGN AND INSULAR.

INFLUENZA ON VESSELS.

Steamships At Ports In Union of South Africa.

Influenza has been reported on vessels arriving at ports in the Union of South Africa as follows:

The *Balmoral Castle*, at Cape Town, from England, January 23, 1922, with history of 20 cases, mostly mild, en route. Three further cases occurred among the crew during the voyage around the coast.

The *Banda* at Durban, January 25, 1921, from Java, with 781 Asiatic immigrants for the West Indies. An outbreak was stated to have occurred during the voyage, and 8 pneumonic cases were landed at Sabang, P. I., for treatment. Subsequently, 35 cases of mild type occurred.

The *Borda*, at Cape Town, from England for Australia, January 14, 1922, with history of 43 cases of influenza of very mild type during the voyage, the last case occurring January 2, 1922.

The *Cawdor Castle*, at Cape Town, from England, January 17, 1922, with history of 9 cases during the voyage, the last case occurring December 30, 1921.

PLAGUE-INFECTED RODENTS ON VESSEL.

Steamship "Warwickshire"—At Liverpool, England.

Information dated February 21, 1922, shows the finding of 27 plague-infected rats and 1 plague-infected mouse on board the steamship *Warwickshire* at Liverpool, England, from Rangoon, India.

The *Warwickshire* left Rangoon January 5, 1922, calling at ports as follows: Colombo, Ceylon, January 9; Suez and Port Said, Egypt, January 23; Marseille, France, January 29; London, February 6; and Liverpool, February 12, 1922.

CANADA.

Communicable Diseases—Ontario—January-February, 1922.

The following table shows the number of cases of communicable diseases occurring in the Province of Ontario, Canada, during the months of January and February, 1922, as compared with the number reported for the corresponding months of the year 1921. The number of deaths from these diseases is also shown. Population, estimated, 2,523,200.

Communicable diseases, Ontario, Canada.

Disease.	January, 1922.		January, 1921.		February, 1922.		February, 1921.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Cerebrospinal meningitis.....	7	6	2	2	6	6	12	12
Diphtheria.....	486	54	876	63	403	38	565	59
Influenza.....	34	31	34	18		41		17
Measles.....	205	3	565	9	554	1	395	8
Pneumonia.....		288		271		289		374
Polio-typhoid.....	2		3	3				
Scarlet fever.....	518	14	613	17	610	17	622	15
Smallpox.....	170		902	3	185		867	5
Tuberculosis.....	160	151	166	114	171	117	194	147
Typhoid fever.....	28	5	43	13	31	5	37	10
Whooping cough.....	89	5	396	9	158	4	257	17

Smallpox, February, 1922—Distribution.

The 185 cases of smallpox reported in February, 1922, were distributed in 20 counties and 36 localities. The greatest prevalence was reported at Owen Sound, viz, 39 cases; at Niagara Falls, 20 cases were reported; at Toronto, 17 cases; at Leamington, 15 cases; and at Ottawa, 14 cases. No fatalities from the disease were reported. The total number of cases reported for the corresponding month of the year 1921 was 867, with 5 deaths.

Venereal Diseases—February, 1922.

During the month of February, 1922, 3 cases of chancroid, 138 cases of gonorrhea, and 181 cases of syphilis were reported in Ontario, as compared with 12 cases of chancroid, 245 cases of gonorrhea, and 195 cases of syphilis reported during February, 1921.

CHILE.**Smallpox—February, 1922.**

Under date of February 15, 1922, smallpox was reported prevalent throughout the southern Provinces of Chile. At Osorno, from the beginning of the epidemic, 87 cases have been reported; at Temuco, 80 cases have been reported.

Smallpox Prevalence in 1921.¹

During the period January to September, 1921, approximately 5,500 cases of smallpox, with 2,500 deaths, were reported for all Chile. In November, 1921, smallpox was reported as diffused in the southern Provinces of Chile, but not in epidemic form.

FINLAND.**Influenza.²**

During the period February 1–15, 1922, 4,547 cases of influenza were reported in Finland. (Population, officially estimated, 3,325,814.)

¹ Public Health Reports, Dec. 23, 1921, p. 3163, and Jan. 23, 1922, p. 145.

² Public Health Reports, Mar. 10, 1922, p. 600.

GREAT BRITAIN.**Examination of Rats—Liverpool.**

Report of examination at Liverpool, England, of rats collected in the city and port of Liverpool, the latter area including quays, ships, and warehouses, shows, for the period December 25, 1921, to February 18, 1922, a total of 1,532 rats examined. No plague infection was found except in 27 rats and one mouse taken from the steamship *Warwickshire*, from Rangoon, which arrived at Liverpool February 12, 1922.¹

INDIA.**School of Tropical Medicine—Calcutta.**

The Calcutta School of Tropical Medicine was formally opened in Calcutta, February 4, 1922. The school is stated to have a staff of 10 professors, six full-time research workers, and a number of assistants for instruction and investigation in tropical diseases, to be associated with an institute of hygiene and a hospital for tropical diseases.

ITALY.**Increased Influenza Prevalence—Genoa.**

Under date of February 18, 1922, an increase in influenza prevalence was reported at Genoa, Italy. The number of cases was not reported. For the 10-day period ended January 31, 1922, the increase in the total number of deaths was stated to be approximately 150.

MAURITIUS.**Further Relative to Plague—Port Louis.²**

Plague has been further reported at Port Louis, Island of Mauritius, as follows: December 1 to 30, 1921, 82 cases with 41 deaths; December 31, 1921, to January 11, 1922, 7 cases with 2 deaths. During the first period under report, 155 dead rats and 4 dead cats were reported found; during the second period, the finding of 17 dead rats was reported.

MEXICO.**Plague-Infected Rodent—Tampico.**

During the period March 12–18, 1922, one plague-infected rodent was reported found at Tampico, Mexico, making a total of 12 infected rodents found at that place from January 1 to March 18, 1922.

PERU.**Plague—February 1–15, 1922.**

During the period February 1 to 15, 1922, 42 cases of plague with 12 deaths were reported in Peru. The occurrence was distributed in 15 localities. During the same period plague was reported present at Trujillo.

¹ See p. 784.² Public Health Reports, Mar. 10, 1922, p. 601.

POLAND.

Communicable Diseases—December 4-31, 1921.¹

Communicable diseases have been reported in Poland, exclusive of the districts of Brest-Litovsk, Minsk, and Wilno, as follows:

December 4-31, 1921.

Disease.	Cases.	Deaths.	Locality of highest proportional mortality.
Cerebrospinal meningitis.....	22	24	Lodz.
Diphtheria.....	457	142	Lwow.
Measles.....	2,288	101	Nowogrodek.
Scarlet fever.....	2,376	381	Lwow.
Smallpox.....	164	34	Kielce.
Tuberculosis.....	267	641	Lwow.
Typhoid fever.....	2,586	247	Do.
Typhus fever.....	3,600	313	Polesia.

UNION OF SOUTH AFRICA.

Anthrax.²

Anthrax was reported present in the Union of South Africa during the week ended January 21, 1922.

According to information received under date of February 2, 1922, importation of shaving brushes of Japanese origin into the Union of South Africa was prohibited by proclamation of May, 1920, but in view of assurances given by the Japanese Government as to the effective disinfection of all material of such brushes before manufacture, the proclamation was rescinded. The efficacy of this system, it was stated, will be checked by bacteriological examination of samples from consignments of shaving brushes landed at Union ports before release.

Epidemic Influenza.³

Epidemic influenza was reported, February 2, 1922, in the Point Area, Durban; also at Mpofana, State of Natal, with spread to the neighboring district of Greytown. Many of the cases were stated to be of gastro-intestinal type with tendency to dysenteric complications, and with considerable mortality among natives.

Under date of February 6, 1922, spread of influenza from Mpofana along the Tugela Valley was reported.

Some prevalence of influenza was also reported from Northern Rhodesia, at Broken Hill and Chinsali.

¹ Public Health Reports, Mar. 10, 1922, p. 601.

² Public Health Reports, Jan. 20, 1922, p. 144.

³ The occurrence of influenza on vessels at ports in the Union of South Africa is reported on p. 784.

Plague—Mortality Among Rodents—Orange Free State.

Three cases of plague, occurring among natives, were reported found January 25, 1922, on Boschrand farm, 10 miles from Kroonstad, Orange Free State. The cases terminated fatally.

Mortality suspected of being due to plague was stated to have been observed among rodents on farms in this locality, near Holfontein Station, and in stacks of grain on the railway premises at Bothaville. Special importance attaches to these conditions, as they occur at localities on the railroad.

Smallpox—Typhus Fever—December, 1921.

During the month of December, 1921, smallpox and typhus fever were reported in the Union of South Africa as follows:

Smallpox.—Among the colored population, 80 cases with 1 death. Of this number, 39 cases with 1 death occurred in Natal; 25 cases in the Cape Province; 1 case in the Orange Free State, and 15 cases in the Transvaal. Two cases of smallpox were reported in the white population.

Typhus fever.—Among the colored population 795 cases of typhus fever were reported with 126 deaths. Of this number 568 cases with 86 deaths occurred in the Cape Province, 80 cases with 18 deaths in Natal, 117 cases with 20 deaths in the Orange Free State, and 30 cases with 2 deaths in the Transvaal. There were reported 13 cases of typhus with 3 deaths among the white population, of which 12 cases with 2 deaths occurred in the Cape Province and 1 case with 1 death in the Transvaal.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended Mar. 31, 1922.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta.....	Feb. 5-11.....	16	15	
Rangoon.....	Jan. 29-Feb. 4.....	16	15	
Philippine Islands:				
Manila.....	Feb. 5-11.....	10		

PLAGUE.

		Cases.	Deaths.	
Brazil:				
Bahia.....	Jan. 22-28.....	6	4	
Ceylon:				
Colombo.....	Jan. 29-Feb. 4.....	2	3	One rodent plague.
China:				
Hongkong.....	.....do.....	4	1	
India:				
Calcutta.....	Feb. 5-11.....	1	1	
Karachi.....	.....do.....	19	13	
Madras Presidency.....	.....do.....	406	375	
Rangoon.....	Jan. 29-Feb. 4.....	43	37	

¹ From officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Mar. 31, 1922—Continued.

PLAGUE—Continued

Place.	Date.	Cases.	Deaths.	Remarks.
Mauritius:				
Port Louis.....	Dec. 1-30.....	82	41	Dead rats found, 155; dead cats, 4.
Do.....	Dec. 31-Jan. 11....	7	2	Dead rats found, 17.
Mexico:				
Tampico.....				Mar. 12-18, 1922: One plague-infected rodent found.
Peru.....				Feb. 1-15, 1922: Cases, 42; deaths, 12.
Locality—				
Callao.....	Feb. 1-15.....	4	2	
Casma.....	do.....	5		
Chiclayo.....	do.....	10	8	
Chilca.....	do.....	8		
Huacho.....	do.....	1		
Lambayeque.....	do.....	2	1	
Lima (city).....	do.....	1	1	
Lima (country).....	do.....	2		
Mollendo.....	do.....	1		
Pacasmayo.....	do.....	1		
Payta.....	do.....	1		
Piura.....	do.....	1		
Sullana.....	do.....	1		
Trujillo.....	do.....			Present.
Tumbez.....	do.....	4		
Siam:				
Bangkok.....	Jan. 8-21.....	7	4	
Straits Settlements:				
Singapore.....	Jan. 22-Feb. 4....	4	4	
Union of South Africa:				
Orange Free State.....	Jan. 25.....	3	3	On Boschrand Farm, 10 miles from Kroonstad.
On vessel:				
S. S. Warwickshire.....	Feb. 12.....			At Liverpool, England, from Rangoon and ports. Plague-infected rats, 27; one plague mouse.

SMALLPOX.

Canada—				
New Brunswick—				
Westmoreland County.....	Mar. 5-11.....	7		Jan. 1-31, 1922: Cases, 170. Feb. 1-28, 1922: Cases, 185.
Ontario.....				
Ottawa.....	Mar. 5-18.....	6		
Toronto.....	Mar. 5-11.....	2		
Saskatchewan—				
Regina.....	do.....	1		
Ceylon:				
Colombo.....	Jan. 29-Feb. 4....	1		
Chile.....				Jan.-Sept., 1921: Cases, 5,500 (approximately); deaths, 2,500 (approximately).
Osorno.....				From beginning of outbreak to Feb. 15, 1922: Cases, 87.
Talcahuano.....	Jan. 29-Feb. 11....	3		From beginning of outbreak to Feb. 15, 1922: 80 cases reported.
Temuco.....				
China:				
Foochow.....	Jan. 15-Feb. 11....			Present.
Hongkong.....	Jan. 29-Feb. 4....	5	4	
Mukden.....	do.....			Do.
Shanghai.....	Feb. 6-19.....	3	30	Cases, foreign; deaths, native.
Tsingtau.....	Jan. 23-Feb. 12....	9	6	
Dominican Republic:				
San Pedro de Macoris.....	Feb. 12-25.....			About 66 cases present in surrounding country.
Finland.....				Feb. 1-15, 1922: Cases, 19.
India:				
Calcutta.....	Feb. 5-11.....	22	20	
Karachi.....	do.....	7	2	
Madras.....	do.....	73	32	
Rangoon.....	Jan. 29-Feb. 4....	7		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended Mar. 31, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
San Luis Potosi.....	Mar. 5-11.....	.....	1	
Palestine:				
Jerusalem.....	Feb. 14-20.....	1	.....
Poland.....	.....	.....	.....	Dec. 4-31, 1921: Cases, 164; deaths, 31. Exclusive of districts of Brest-Litovsk, Minsk, and Wilno.
Spain:				
Huelva.....	Dec. 1-31.....	.....	1	
Seville.....	Feb. 19-25.....	.....	5	
Straits Settlements:				
Singapore.....	Jan. 22-Feb. 4.....	26	7	
Switzerland:				
Lucerne.....	Feb. 1-28.....	12	.....
Union of South Africa:				
Cape Providence.....	Dec. 1-31.....	25	.....	Dec. 1-31, 1921: (Colored) cases, 80; deaths, 1. (White) cases 2.
Natal.....	.....	39	1	
Orange Free State.....	.....	1	.....
Transvaal.....	.....	15	.....
Yugoslavia:				
Belgrade.....	Dec. 11-17.....	4	.....
Do.....	Jan. 1-Feb. 18.....	6	.....

TYPHUS FEVER.

Algeria:				
Oran.....	Feb. 21-28.....	.....	1	
Bulgaria:				
Sofia.....	Feb. 12-18.....	1	.....
Chile:				
Talcahuano.....	Jan. 29-Feb. 5.....	2	.....
China:				
Antung.....	Feb. 6-12.....	1	.....
Egypt:				
Alexandria.....	Feb. 12-18.....	4	1	
Greece:				
Saloniki.....	Jan. 23-29.....	1	.....
Palestine:				
Jerusalem.....	Feb. 14-20.....	3	.....
Poland.....	.....	.....	.....	Dec. 4-31, 1921: Cases, 3,600; deaths, 313. Exclusive of districts of Brest-Litovsk, Minsk, and Wilno.
Portugal:				
Oporto.....	Feb. 19-Mar. 4.....	9	.....
Siberia:				
Vladivostok.....	Dec. 25-31.....	5	1	
Tunis:				
Tunis.....	Feb. 5-18.....	1	2	
Turkey:				
Constantinople.....	Jan. 29-Feb. 11.....	11	.....
Union of South Africa:				
Cape Province.....	Dec. 1-31.....	580	88	Dec. 1-31, 1921: (Colored) cases, 795; deaths, 126. (White) cases, 13; deaths, 3.
Natal.....	.....	80	18	White, 12 cases, 2 deaths.
Orange Free State.....	.....	117	20	
Transvaal.....	.....	31	3	White, 1 case, 1 death.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Oct. 2-Dec. 10, 1921: Deaths, 34,199.
Bombay.....	Oct. 30-Nov. 5.....	1		
Calcutta.....	Oct. 23-Dec. 31.....	71	60	
Do.....	Jan. 1-Feb. 4.....	79	69	
Karachi.....	Nov. 6-12.....		1	
Madras.....	Dec. 11-31.....	4	1	
Do.....	Jan. 1-Feb. 4.....	10	7	
Rangoon.....	Oct. 1-Dec. 31.....	30	24	
Do.....	Jan. 1-14.....	5	3	
Indo-China:				
Saigon.....	Nov. 6-12.....	1	1	
Java:				
West Java—				
Batavi.....	Nov. 1-7.....	2	2	At Lebak.
Philippine Islands:				
Manila.....	Nov. 13-Dec. 31.....	49	18	
Do.....	Jan. 1-Feb. 4.....	64	23	
Province—				
Bulacan.....	Dec. 25-31.....	1		
Pampanga.....	do.....	1		
Zambales.....	Dec. 11-31.....	31	18	
Ponau.....				Aug. 14-Sept. 10, 1921. Cases, 4; deaths, 1.
Russia:				Present.
Kharkoff.....	Jan. 28.....			
Kieff.....	Dec. 13-Jan. 11.....	259		
Latvia—				
Riga.....				At quarantine station in October, 1921: One case.
Odessa.....	Jan. 28.....			Present.
Siam:				
Bangkok.....	Oct. 23-Dec. 24.....	8	4	

PLAGUE.

Asia Minor:				
Smyrna.....	Nov. 27-Dec. 3.....	1	1	
Australia:				
New South Wales—				
Sydney.....	do.....	2	1	Dec. 7-13: 4 plague rats. Jan. 15-21, 1922: One plague rat.
Do.....	Jan. 29-Mar. 18.....	6		
Queensland—				
Brisbane.....	Oct. 30-Dec. 31.....	27	20	Total, Aug. 22-Dec. 31, 1921: Cases, 41; deaths, 27. Total infected rats, 54. Total cases, Jan. 1-Mar. 18, 1922: 9. Total infected rats, 10.
Do.....	Jan. 1-Mar. 18.....	10		
Bundaberg.....	Mar. 5-11.....	1		
Cairns.....	Oct. 30-Dec. 31.....	6	3	Plague rats: 9.
Do.....	Jan. 1-7.....		1	
Cooktown.....	Oct. 30-Nov. 5.....	1		Pestis minor.
Ingham.....				Nov. 6-Dec. 24, 1921: Plague rats, 14. Jan. 1-14, 1922: 2 plague rats.
Inisfall.....				Nov. 27-Dec. 3, 1921: 1 plague rat.
Ipswich.....	Dec. 11-17.....	1	1	
Port Douglas.....	Nov. 13-19.....	1	1	
Townsville.....	Nov. 20-Dec. 3.....	2	2	Total cases, 27; deaths, 18.
Do.....	Jan. 1-14.....		2	To Jan. 14, 1922: Cases, 32; deaths, 21.
Azores:				
Islands—				
Fayal.....	Jan. 16-22.....	2	2	
St. Michael.....				Nov. 27-Dec. 31, 1921: Cases, 23; deaths, 9. Jan. 1-21, 1922: Cases, 13; deaths, 8.
Arrifes.....	Dec. 25-31.....	1	1	3 miles from port.
Do.....	Jan. 1-7.....	1		
Fenaes d'Ajuda.....	Nov. 27-Dec. 3.....			Present. 6 miles from port.
Do.....	Jan. 15-21.....	3	2	
Ribeira Grande.....	Nov. 13-Dec. 10.....	19	8	9 miles from port.
Do.....	Jan. 8-14.....	9	6	
Livramento.....	Dec. 4-10.....	2		Vicinity of Ponta Delgada.
Ponta Delgada.....	do.....	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Brasil:				
Bahia.....	Oct. 30-Dec. 31....	13	12	
Do.....	Jan. 1-21.....	6	5	
Para.....	Feb. 6-12.....	1	1	
Rio de Janeiro.....	Jan. 22-28.....	1	1	
British East Africa:				
Uganda.....	Aug. 1-Nov. 29....	169	140	Aug. 1-Oct. 31, 1921: Reports of inspectors, deaths, 343; reports of chiefs, deaths, 661.
Ceylon:				
Colombo.....	Oct. 30-Dec. 31....	13	10	Oct. 30-Dec. 24, 1921: Rodent plague, 6.
Do.....	Jan. 1-Jan. 28....	12	12	Infected rats, 9.
China:				
Hongkong.....	Nov. 20-Dec. 17....	6	7	
Do.....	Jan. 1-28.....	12	7	
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31....	18	6	Rats examined, 2,958; found infected, 90. Total, July-Dec. 15, 1921: Cases, 28. Jan. 1-31, 1922: Rats examined, 6,200; found infected, 153.
Do.....	Jan. 1-31.....	20	9	Jan. 1-Dec. 31, 1921: Cases, 356; deaths, 153. Jan. 1-Feb. 9, 1922: Cases, 14; deaths, 8.
Egypt:				
City—				
Alexandria.....	Dec. 5-30.....	7	2	
Do.....	Jan. 17-Feb. 7....	4	2	
Port Said.....	Dec. 20.....	1	9	
Suez.....	Nov. 22-Dec. 31....	16	9	
Do.....	Jan. 2-29.....	4	2	
Province—				
Girgeh.....	Jan. 12.....	1	1	Septicemic.
Keneh.....	Dec. 1.....	1	1	Do.
Do.....	Jan. 21-Feb. 8....	3	2	1 case septicemic.
Greece:				
Preveza.....	Feb. 8.....			Outbreak. Port on the Ionian Sea.
India:				
				Oct. 23-Dec. 31, 1921: Cases, 8,690; deaths, 6,458 (Reports, weeks ended Dec. 3 and 17, 1921, missing). Jan. 1-21, 1922: Cases, 5,525; deaths, 4,292.
Bombay.....	Oct. 23-Dec. 24....	7	6	
Do.....	Jan. 1-7.....	1	1	
Calcutta.....	Jan. 28-Feb. 4....	1	1	
Karachi.....	Nov. 6-Dec. 31....	5	5	
Do.....	Jan. 1-Feb. 4....	17	12	
Madras.....	Dec. 11-17.....	1		
Madras Presidency.....	Nov. 13-Dec. 31....	2,047	1,438	
Do.....	Jan. 1-Feb. 4....	1,469	1,044	
Rangoon.....	Oct. 1-Dec. 31....	139	129	
Do.....	Jan. 1-28.....	132	121	
Indo-China:				
Saigon.....				Nov. 6-Dec. 24, 1921: Rodent plague, 10. Jan. 8-14, 1922: Rodent plague, 1.
Italy:				
Catania.....	Nov. 27.....	1	1	Total, Oct. 16-Nov. 27, 1921: Cases, 8 (of which 1 doubtful); deaths, 5.
Naples (Province)—				
Torre Annunziata.....	Oct. 22-Dec. 27....	2		17 miles from city of Naples.
Venice.....	Oct. 27.....	1		
Java:				
				Islands of Java and Madoera, Nov. 1-Dec. 31, 1921; deaths, 1,781.
East Java—				
Soerabaya.....	Oct. 30-Dec. 10....	11	12	
Do.....	Jan. 1-7.....	2	2	
Madagascar:				
Tananarive.....	Mar. 2.....	38		Among natives. Entire city reported infected Feb. 4: Present.
Mauritius (Island):				
Port Louis.....	Oct. 29-Nov. 30....	159	101	Plague-infected rats, 176; plague-infected cats, 36. (Corrected report.)

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	1	1	
Mexico:				
Tampico.....				Dec. 18-31, 1921: Infected rodents found, 5; total, Jan. 1-Dec. 31, 1921, infected rodents, 322; Jan. 1-Mar. 11, 1922, 11 plague-infected rodents.
Vera Cruz.....				One infected rodent caught Dec. 5, 1921.
Peru.....				Nov. 17-Dec. 31, 1921: Cases, 94; deaths, 35. Occurring in Callao, Huacho, Huaras, Lima, Magdalena Vieja, Paita, Salaverry, and Sechura. Jan. 1-31, 1922: Cases, 65; deaths, 29. (Corrected report.)
Localities—				
Bambamarca.....	Jan. 1-15.....			Present. Rural.
Barranco.....	Jan. 16-31.....	1		
Callao.....	Jan. 1-15.....	2		Rural. Year, 1921: Deaths, 30.
Chilca.....	Jan. 16-31.....	3	2	
Chiclayo.....	do.....	5	2	
Cutervo.....	Jan. 1-15.....	1		Rural.
Guadalupe.....	Jan. 1-31.....	7	2	
Huacho.....	do.....	2		
Hualgayoc.....	Jan. 16-31.....			Province. Present.
Huaral.....	Jan. 1-15.....	2		
Jayanca.....	do.....			Present.
Lambayeque.....	Jan. 16-31.....	1		
Lima.....	Jan. 1-31.....	3		In district, 11 cases; 3 deaths.
Payta.....	do.....	25	19	
Salaverry.....	Jan. 16-31.....	1		
San Pedro.....	Jan. 1-15.....	1		
Sullana.....	do.....		1	
Portugal:				
Lisbon.....	Dec. 15.....	1	1	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Nov. 5.....		2	
Rhodes (Island) (Aegean Sea).....	Oct. 13.....	3	1	
Senegal—				
Dakar.....				Jan. 1-31, 1922: 1 rodent plague.
Siam:				
Bangkok.....	Oct. 23-Dec. 31.....	7	6	
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 31.....	3	3	
Do.....	Jan. 15-21.....	1		
Syria:				
Beirut.....	Oct. 9-Nov. 20.....	10	4	
Turkey:				
Constantinople.....	Jan. 1-7.....	1		
Union of South Africa:				
Orange Free State—				
Bothaville.....	Nov. 19.....			Plague-infected mouse found.
Hoopstad.....	Dec. 4-10.....	1		In native herd boy.
On vessel:				
S. S. Polycarp.....	Feb. 3.....	1		At Para, Brazil, from Ceara, via Manaus, Maranham, and Para for New York.
S. S. Tango Maru.....	Dec. 31.....	1		At Thursday Island Quarantine, Australia, from Kobe, via Nagasaki, Hongkong, Manila, and Zamboanga.

SMALLPOX.

Arabia:				
Aden.....	Dec. 25-31.....		1	
Do.....	Jan. 8-14.....		1	
Asia Minor:				
Smyrna.....	Jan. 15-21.....	1		In district.
Algeria:				
Algiers.....				Jan. 1-31, 1922: 1 case.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Bolivia:				
La Paz.....	Aug. 1-Dec. 31.....	60	41	
Do.....	Jan. 1-31.....	15	9	
Brazil:				
Bahia.....	Nov. 6-Dec. 17.....	4		
Do.....	Jan. 8-14.....	1		
Rio de Janeiro.....	Nov. 13-Dec. 31.....	13	2	
Do.....	Jan. 1-28.....	16	4	
Sao Paulo.....	Oct. 31-Dec. 25.....	11		
Do.....	Dec. 25-Jan. 1.....	1		
British East Africa:				
Uganda.....	Aug. 1-Nov. 30.....	22	3	Reports of inspectors: cases, 4.
Canada:				
British Columbia—				
Vancouver.....	Dec. 25-31.....	3		
Do.....	Jan. 29-Feb. 4.....	1		
Manitoba.....				Year 1921: Cases, 71.
Winnipeg.....	Nov. 20-Dec. 3.....	2		
New Brunswick—				
Charlotte County.....				Dec. 17, 1921: 31 cases previously reported, occurring at Andersonville and Blacks Harbor.
St. Stephen.....	Dec. 11-17.....	2		Dec. 18-24, 1921: Cases, 3. Dec. 25-31, 1921: Cases, 2. Feb. 19-20, 1922: Cases, 2.
Restigouche County.....				Dec. 11-31, 1921: Cases, 3. Feb. 12-25, 1922: Cases, 4.
Charlo.....	Feb. 19-25.....	2		20 miles from Campbellton.
York County.....	Dec. 11-17.....	1		
Do.....	Jan. 29-Feb. 4.....	1		
Ontario:				Dec. 1-31, 1921: Cases, 128.
Fort William and Port Arthur.....	Jan. 1-21.....	3		
Hamilton.....	Jan. 22-28.....	3		
Kingston.....	Jan. 17-Feb. 11.....	5		
Niagara Falls.....	Dec. 11-24.....	2		Jan. 16-20, 1922: Two cases reported.
Do.....	Jan. 15-Mar. 4.....	25		
North Bay.....	Feb. 12-18.....	1		
Ottawa.....	Dec. 11-24.....	17		
Do.....	Jan. 1-Feb. 25.....	26		
Sault Ste. Marie.....	Jan. 15-21.....	1		
Toronto.....	Dec. 11-24.....	4		
Do.....	Jan. 1-Feb. 25.....	45		
Windsor.....	Jan. 8-Mar. 4.....	3		
Quebec—				
Montreal.....	Dec. 11-24.....	1		
Saskatchewan—				
Regina.....	Jan. 1-21.....	3		
Saskatoon.....	Dec. 1-18.....	6		
Do.....	Feb. 5-18.....	3		
Canal Zone:				
Ancon.....				Admitted to hospital by transfer from Panama, Nov. 30, 1921, 1 case. Arrived on sailing vessel from a village on south coast.
Ceylon:				
Colombo.....	Nov. 27-Dec. 3.....	1		Port case.
Chile:				
Concepcion.....	Nov. 23-Dec. 26.....		25	Nov. 15-21, 1921: Diffused in southern provinces; not epidemic.
Do.....	Dec. 27-Jan. 30.....		21	Nov. 15-21, 1921: Present. In vicinity, at Hualqui, cases, 32; deaths, 5. Dec. 4-17, 1921: Present.
Coronel.....	Nov. 15-Dec. 17.....			Present.
Curanilahue.....	Nov. 15-21.....	4		
Lota.....				Oct. 28, 1921-Jan. 31, 1922: Cases, 879; deaths, 338.
Talcahuano.....	Nov. 15-Dec. 24.....	6		Do.
Do.....	Jan. 8-28.....			
Temuco.....	Nov. 15-21.....	9		
Valparaiso.....	Oct. 23-Dec. 31.....		94	
Do.....	Jan. 1-21.....		30	
China:				
Amoy.....	Nov. 16-Dec. 31.....		7	Nov. 23-29, 1921: Present. Jan. 22-28, 1922: Present.
Do.....	Jan. 1-21.....		4	
Antung.....	Nov. 28-Dec. 18.....	4	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Canton.....	Dec. 1-31.....			Present.
Changsha.....	Jan. 16-22.....	1		
Chungking.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-21.....			Do.
Foochow.....	Nov. 6-Dec. 31.....			Do.
Do.....	Jan. 1-14.....			Do.
Hankow.....	Nov. 13-Dec. 31.....			Do.
Do.....	Jan. 1-21.....	2		
Harbin.....	Nov. 14-Dec. 11.....	5		
Do.....	Dec. 26-Jan. 1.....	2		
Hongkong.....	Dec. 3-31.....	5		
Do.....	Jan. 1-28.....	6	3	
Mukden.....	Nov. 20-Dec. 31.....			Do.
Do.....	Jan. 15-21.....			Do.
Nanking.....	Nov. 20-Dec. 17.....			Do.
Do.....	Jan. 15-Feb. 4.....			Do.
Shanghai.....	Oct. 31-Dec. 31.....	67	194	Cases, foreign; deaths, Chinese and foreign. Jan. 14, 1922: Conditions serious. Populations: Native, 790,000; foreign, 24,000.
Do.....	Jan. 2-Feb. 5.....	28	151	Cases, foreign; deaths, native. Jan. 14, 1922: Seriously prevalent.
Tientsin.....	Dec. 11-17.....	2		In Mission Hospital.
Tsingtau.....	Jan. 1-15.....	5	4	
Chosen (Korea):				
Fusan.....	Dec. 1-31.....	3	1	
Do.....	Jan. 1-31.....	21	4	
Seoul.....	do.....	1	1	
Colombia:				
Cartagena.....	Nov. 22-28.....		1	
Santa Marta.....	Feb. 19-25.....			Present.
Cuba.....				
Antilla.....	Dec. 12-31.....	3		Dec. 4-31, 1921: Cases, 361. Jan. 1-31, 1922: Cases, 257.
Do.....	Jan. 8-Feb. 4.....	13	1	At Preston.
Cienfuegos.....	Jan. 22-Mar. 4.....	5	1	Two cases from outside city limits.
Santiago.....	Jan. 1-Feb. 28.....	8	1	
Czechoslovakia:				
Prague.....	Dec. 18-24.....		42	
Dominican Republic.....				
Puerta Plata.....	Jan. 13.....	100	5	Oct. 1-31, 1921: Cases, 653; deaths, 54. Jan. 2-Feb. 4, 1922: Cases, 6,922; deaths, 185.
San Pedro de Macoris.....	Nov. 20-Dec. 31.....	31	1	In district, widely diffused with 1,000 estimated cases with 100 deaths.
Do.....	Jan. 14-Feb. 4.....	122		Estimate of about 500 cases of smallpox in the district of Macoris; of this amount 50 within the city limits.
Santo Domingo.....	Nov. 15-Dec. 5.....			In district.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 31.....	7		In district 401 cases estimated. Dec. 17-24, 1921: Present in vicinity. Jan. 9-16, 1922: In surrounding country, 1,745 cases (estimated).
Do.....	Jan. 1-15.....	1		
Egypt:				
Alexandria.....	Nov. 26-Dec. 2.....	1	1	
Cairo.....	do.....	2		
Port Said.....	Dec. 20-26.....	1		Dec. 16-23, 1922: 1 case.
Do.....	Jan. 22-28.....	1		
Finland.....				
Fiume.....				Nov. 16-30, 1921: 1 case.
Great Britain:				
Manchester.....	Jan. 1-7.....	4		Dec. 27, 1921-Jan. 2, 1922: Cases, 2.
Nottingham.....	Dec. 4-31.....	18		
Do.....	Jan. 8-28.....	3		
Swansea.....	Jan. 17-23.....	2		Imported on vessel from Persian Gulf.
Haiti.....				
Cape Haitien.....	Dec. 11-24.....	8		Jan. 22-28, 1922: A few cases.
Do.....	Jan. 1-Feb. 18.....	21	1	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Haiti—Continued.				
Port au Prince.	Dec. 11-31.			Present.
Do.	Jan. 15-21.	2		
India.				Oct. 2-8, 1921: Deaths, 28. Oct. 23-Nov. 19, 1921: Deaths, 266. Nov. 27-Dec. 10, 1921: Deaths, 168.
Bombay.	Oct. 23-Dec. 31.	3	2	
Do.	Jan. 1-14.	3		
Calcutta.	Nov. 13-Dec. 31.	37	28	
Do.	Jan. 1-Feb. 4.	60	55	
Karachi.	Nov. 11-Dec. 31.	28	9	
Do.	Jan. 1-Feb. 4.	28	12	
Madras.	Nov. 13-Dec. 31.	183	50	
Do.	Jan. 1-Feb. 4.	285	96	
Rangoon.	Oct. 1-Dec. 31.	6		
Do.	Jan. 15-28.	12		
Indo-China:				
Saigon.	Dec. 18-24.	1	1	City and district.
Do.	Jan. 8-14.	1	1	Do.
Italy:				
Genoa.	Nov. 10-20.	1		
Messina—				
Messina.	Nov. 28-Dec. 4.	1		
Pettineo.	Nov. 14-Dec. 4.	2		
Venice.	Jan. 30-Feb. 5.	2		
Japan:				
Kobe.	Jan. 23-29.	3	1	
Taiwan Island.	Dec. 1-31.	2	1	
Yokohama.	Jan. 9-21.	3		
Do.	Jan. 1-10.	2		
Java:				
East Java—				
Soerabaya.	Jan. 1-7.	4		
West Java—				
Bandoeng.	Nov. 18-Dec. 8.	2		
Batavia.	Nov. 18-Dec. 22.	11	9	City and Province.
Do.	Dec. 30-Jan. 26.	3	3	In Province: Cases, 23; deaths, 4, 13 cases, with 3 deaths, not locally stated.
Buitenzorg.	Nov. 25-Dec. 8.	7	1	
Krawang.	Nov. 18-24.	1		
Lebak.	Nov. 18-Dec. 8.	7	4	
Pandeglang.	Nov. 25-Dec. 1.		1	
Tangerang.	Nov. 18-Dec. 8.	5	1	
Liberia:				
Grand Bassa County.	Nov. 30.			Present at Lower Buchanan.
Mesopotamia:				
Bagdad.	Oct. 1-Nov. 30.	117	50	Epidemic with high mortality in November, 1921.
Mexico:				
Chihuahua.	Dec. 5-11.		1	
Do.	Jan. 23-Feb. 19.		2	
Guadalajara.	Nov. 1-Dec. 31.	6		
Do.	Jan. 1-31.	11	2	
Mexico City.	Nov. 20-Dec. 31.	64		Including municipalities in Federal District.
Do.	Jan. 1-21.	57		Do.
Saltillo.	Jan. 29-Feb. 4.		1	From San Salvador, Zacatecas.
San Luis Potosi.	Dec. 18-24.		2	
Do.	Jan. 8-Feb. 25.		9	
Torreón.	Dec. 1-31.	134		
Do.	Jan. 1-Feb. 28.		82	
Newfoundland:				
St. Johns.	Feb. 4-10.	1		
Palestine:				
Jerusalem.	Jan. 10-Feb. 6.	24		
Panama:				
Bocas del Toro Province—				
Sursuba.	Jan. 18-Feb. 8.	11		Village 24 miles from Almirante.
Chiriqui Province.	Dec. 22.			Present.
Do.	Jan. 26.			Present with center of prevalence at Bosquete Bajo.
Panama.	Dec. 14.	1		On Dec. 21, 1921: 1 additional case from country district of Sabanas, admitted to hospital. Total admissions, Jan. 1-Dec. 21, 1921, 207.
Peru:				
Lima.	Nov. 1-Dec. 31.		3	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland.....				Aug. 14-Dec. 3, 1921: Cases, 494; deaths, 112. Exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Portugal:				
Lisbon.....	Nov. 13-Dec. 31...	48	12	
Do.....	Jan. 1-28.....	46	1	
Portuguese East Africa:				
Lourenco Marques.....	Oct. 1-Nov. 5.....	2	4	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Dec. 31.....		7	
Rumania:				
Bucharest.....	Nov. 1-30.....		33	
Russia:				
Estonia.....	Oct. 1-Dec. 31.....	38		
Latvia.....	do.....	75		
Senegal:				
Dakar.....	Jan. 1-31.....	2		
Serbia:				
Belgrade.....	Oct. 2-Nov. 26.....	16	4	
Siam:				
Bangkok.....	Oct. 23-Nov. 5.....	1		
Spain:				
Barcelona.....	Jan. 8-14.....		1	
Huelva.....	Oct. 1-Nov. 30.....		2	
Malaga.....	Nov. 1-Dec. 31.....		60	
Seville.....	Nov. 16-Dec. 31.....		7	
Do.....	Jan. 8-Feb. 11.....		13	
Valencia.....	Jan. 22-28.....	1		
Straits Settlements:				
Singapore.....	Nov. 6-Dec. 24.....	40	13	
Do.....	Jan. 1-21.....	23	11	
Switzerland:				
Glarus, Canton.....	Dec. 10.....			Epidemic.
Zurich.....	do.....	2		In vicinity.
Syria:				
Adana.....	Dec. 18-24.....			Present.
Do.....	Jan. 1-14.....			Do.
Aleppo.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 18.....			Do.
Alexandretta.....	do.....			Do.
Beirut.....	Oct. 9-Nov. 13.....	5	2	
Do.....	Jan. 8-28.....	8		Dec. 29, 1921-Jan. 4, 1922: Cases, 14; deaths, 2.
Cilicia.....	Jan. 8-Feb. 4.....			Present.
Diarbekir.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Mersina.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-7.....			Do.
Ur a.....	Dec. 18-24.....			Do.
Do.....	Jan. 1-Feb. 4.....			Do.
Tunis:				
Tunis.....	Nov. 26-Dec. 23.....	17	15	
Do.....	Jan. 1-Feb. 4.....	4	5	
Turkey:				
Constantinople.....	Nov. 27-Dec. 24.....	20	4	
Do.....	Jan. 15-28.....	16	5	
Union of South Africa:				
Cape Province.....	Nov. 5-Dec. 31.....			Nov. 1-30, 1921: Cases, 216; deaths, 5 (colored). White, 8 cases.
Do.....	Jan. 8-14.....			Outbreaks. Nov. 1-30, 1921: Cases, 17; deaths, 1 (colored).
Natal.....	do.....			Outbreaks.
Orange Free State.....	Oct. 23-Dec. 24.....			Outbreaks. Nov. 1-30, 1921: Cases, 170; deaths, 4 (colored).
Southern Rhodesia.....	Dec. 29-Jan. 18.....	16		Outbreaks. Nov. 1-30, 1921: Cases, 7 (colored).
Transvaal.....	Oct. 23-Dec. 31.....			Outbreaks.
Do.....	Jan. 1-14.....			Outbreaks. Nov. 1-30, 1921: Cases, 22 (colored). Among white population, 8 cases, State not designated.
Johannesburg District.....	Dec. 1-31.....	1		
Do.....	Jan. 1-7.....			Outbreaks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Yugoslavia.....				July 3-30, 1921: Cases, 37.
Bosnia Herzegovina.....	July 3-9.....	2		
Croatia Slavonia.....	.....do.....	1		
Dalmatia.....	.....do.....	1		
Serbia.....	.....do.....	3		
Slavonia.....	.....do.....	1		
Voivodina.....	.....do.....	3		
On vessel:				
S. S. West O'Rowa.....	Jan. 5-8.....	3	1	At Kobe, Japan, from Shanghai, China.
S. S. —.....	Jan. 17-23.....	2		At Swansea, Wales, from Persian Gulf.

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-Dec. 31.....	3		
Do.....	Jan. 11-Feb. 10.....	2		
Oran.....	Dec. 21-31.....	1		
Do.....	Jan. 1-10.....		1	
Asia Minor:				
Brousa.....	Jan. 15-21.....	1		
Austria:				
Vienna.....	Dec. 4-31.....	10		
Do.....	Jan. 1-28.....	9	1	
Bolivia:				
La Paz.....	Aug. 1-Dec. 31.....	121	98	
Do.....	Jan. 1-31.....	15	12	
Bulgaria:				
Sofia.....	Dec. 18-24.....	1		
Chile:				
Concepcion.....	Nov. 22-Dec. 26.....		3	
Do.....	Jan. 3-30.....		3	
Valparaiso.....	Oct. 23-Nov. 26.....		6	
Do.....	Jan. 1-7.....		1	
China:				
Antung.....	Dec. 26-Jan. 1.....	1		
Harbin.....	Nov. 7-Dec. 25.....	12		
Do.....	Dec. 26-Jan. 29.....	17		Jan. 23, 1922: Reported extending from Soviet Russia, along railway line to maritime provinces.
Danzig (free city).....	Feb. 23.....	1		In district, at Zoppot. In merchant from Warsaw.
Egypt:				
Alexandria.....	Nov. 19-Dec. 31.....	3	1	
Do.....	Jan. 15-Feb. 11.....	11	2	
Cairo.....	Oct. 1-Dec. 31.....	18	14	
Port Said.....	Jan. 22-Feb. 11.....	2		
Germany:				
Breslau.....	Dec. 25-31.....	2	1	
Do.....	Jan. 1-Feb. 5.....	55	8	
Frankfort-on-Oder.....	Feb. 16.....	26		In persons returning from Russia.
Hamburg.....	Dec. 11-17.....	4		
Great Britain:				
Glasgow.....	Dec. 25-31.....	1		
Italy:				
Palermo.....	Jan. 15-28.....	3	1	
Mesopotamia:				
Bagdad.....	Oct. 1-Dec. 31.....	3	9	
Mexico:				
Mexico City.....	Nov. 20-Dec. 31.....	242		Including municipalities in Federal District.
Do.....	Jan. 1-21.....	123		Do.
San Luis Potosi.....	Dec. 18-24.....		1	Dec. 25-31, 1921: Present.
Do.....	Jan. 8-Feb. 23.....			Present. One death.
Palestine:				
Jerusalem.....	Dec. 27-Jan. 10.....	5		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar. 24, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland.....				Aug. 14 - Nov. 5, 1921: Cases, 2,399; deaths, 173. Nov. 6-Dec. 3, 1921: Cases, 1,512; deaths, 105. Exclusive of Brest - Litovsk, Minsk, and Wilno districts. Nov. 20-Dec. 10, 1921: Cases, 1,162; deaths, 89. Jan. 1-7, 1922: Cases, 1,322.
District—				
Bialystok.....	Nov. 20-Dec. 10...	116	3	
Do.....	Jan. 1-7.....	253		
Gallcia—				
Lemberg.....	Jan. 3.....	229		Jan. 1-7, 1922: Cases, 61.
Kielce.....	Nov. 20-Dec. 10...	31	8	
Do.....	Jan. 1-7.....	28		
Krakow.....	Nov. 20-Dec. 10...	45	6	
Do.....	Jan. 1-7.....	53		
Lodz.....	Nov. 20-Dec. 10...	67		
Do.....	Jan. 1-7.....	41		
Lublin.....	Nov. 20-Dec. 10...	59		
Do.....	Jan. 1-7.....	147		
Lwow.....	Nov. 20-Dec. 10...	121	16	
Nowogrod.....	do.....	249	15	
Polesia.....	do.....	83	5	
Do.....	Jan. 1-7.....	450		
Posen.....	do.....	1		
Stanislawow.....	Nov. 20-Dec. 10...	88	8	
Do.....	Jan. 1-7.....	54		
Tarnopol.....	Nov. 20-Dec. 10...	86	17	
Do.....	Jan. 1-7.....	28		
Volhynia.....	Nov. 20-Dec. 10...	89	4	
Do.....	Jan. 1-7.....	107		
Warsaw.....	Nov. 20-Dec. 10...	81	2	
Do.....	Jan. 1-7.....	32		
Warsaw City.....	Nov. 20-Dec. 10...	47	5	
Do.....	Jan. 1-7.....	67		
Portugal:				
Oporto.....	Jan. 8-Feb. 11.....	6	2	
Rumania:				
Bucharest.....	Nov. 1-30.....	3		
Chisinau.....	do.....	7		
Russia.....				Nov. 28-Dec. 10, 1921: In Soviet Russia, cases, 7,681.
Esthonia.....	Oct. 1-Dec. 31.....	53		(Corrected report) Oct. 1-Nov. 30, 1921: Cases, 127.
Latvia.....	do.....	341		
Libau.....	Jan. 15-Feb. 1.....	4		
Perm.....	Nov. 23-Dec. 10...	1,408		Oct. 1-31, 1921: Cases, 839; Nov. 1-30, 1921: Cases, 2,389.
Saratov District—				Sept. 1-Dec. 31, 1921: Cases, 1,987; mortality, about 10 per cent; hospital cases.
Markstadt.....				Jan. 23, 1922: Present in western districts.
Serbia:				Epidemic.
Belgrade.....	Oct. 2-Nov. 26....	3	2	
Siberia.....				
Chita.....	Dec. 26.....			
Spain:				
Madrid.....	Dec. 1-31.....		1	
Do.....	Jan. 1-31.....		2	
Turkey:				
Constantinople.....	Nov. 20-Dec. 31....	19		
Do.....	Jan. 1-28.....	30		
Union of South Africa.....				Nov. 1-30, 1921: Cases, 573; deaths, 79 (colored). White, 7 cases: 1 death.
Cape Province.....				Oct. 23-Dec. 24, 1921: Outbreaks. Nov. 1-30, 1921: Cases, 473; deaths, 70 (colored). Among white population, 7 cases, 1 death.
Do.....				Jan. 1-14, 1922: Outbreaks.
East London.....	Oct. 30-Dec. 24....	3		One death in European at Jenessville, Dec. 6, 1921.
Natal.....	Nov. 5-Dec. 17....			Outbreaks. Stated to be prevalent only in Newcastle District. Nov. 1-30, 1921: Cases, 55; deaths, 7 (colored).
Orange Free State.....	Nov. 13-Dec. 31....			Outbreaks. Nov. 1-30, 1921: Cases, 41; deaths, 1 (colored).
Do.....	Jan. 1-14.....			Outbreaks.
Transvaal.....	Jan. 8-14.....			Outbreaks. Nov. 1-30, 1921: Cases, 4; deaths, 1 (colored).
Johannesburg District.....	Jan. 12-18.....	26	4	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from Dec. 31, 1921, to Mar 24, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Venezuela:				
Maracalbo.....	Dec. 20-26.....	.....	1	
Yugoslavia.....				July 3-30, 1921: Cases, 13.
Bosnia Herzegovina.....	July 3-9.....	1	.....
Croatia.....				
Zagreb.....	Jan. 1-14.....	2	.....
Montenegro.....	July 3-9.....	2	.....

YELLOW FEVER.

Mexico.....				Year 1921: Cases, 115; deaths, 53.
Colima (State).....				Year 1921: Cases, 7; deaths, 4.
Colima.....	Oct. 27.....	4	3	
Manzanillo.....	Aug. 21.....	3	1	
Jalisco (State).....				Year 1921: Cases, 13; deaths, 7.
Guadalajara.....	Nov. 1-30.....	1	1	Imported.
Puerta Vallarta (Las Penas).....	Oct. 5-Dec. 17.....	13	5	
Tonila.....	Aug. 31.....	1	1	
Quintana Roo (Territory)—Payo Obispo.....	Aug. 8.....	1	1	
Sinaloa (State).....				Year 1921: Cases, 18; deaths, 9.
Culiacan.....	Sept. 17.....	4	1	
Guamuchil.....	Oct. 10.....	1	.....
Mazatlan.....	Aug. 21.....	1	1	Imported.
Palmar de los Leales.....	Sept. 30.....	12	7	
Tamaulipas (State).....				Year 1921: Cases, 1; deaths, 1.
Tampico.....	Jan. 11.....	1	1	
Vera Cruz (State).....				Year 1921: Cases, 75; deaths, 31.
Alamo.....	June 21.....	4	1	Oil camp.
Alvarado.....	July 3.....	1	1	
Barra de Penn.....	July 18.....	1	1	
Cordoba.....	Sept. 22.....	5	3	
Cosamaloapam.....	July 18.....	14	6	
Nogales.....	Oct. 28.....	1	1	
Orizaba.....	do.....	1	.....
Papantla.....	Jan. 14.....	6	3	
Providencia.....	Oct. 28.....	3	.....
Purga.....	Feb. 7.....	1	1	
Rancho de Santa Rosa.....	Oct. 8.....	2	.....
Rancho "El Jaguey".....	Sept. 14.....	2	2	
San Pablo (Papantla).....	Sept. 12.....	1	.....
San Ildefonso.....	Oct. 17.....	2	.....
Tierra Blanca.....	Sept. 24-Nov. 12.....	4	3	
Tlaxotalpan.....	Sept. 14.....	1	1	
Tuxpam.....	Jan. 3.....	8	2	
Vera Cruz.....	Jan. 15.....	18	7	Two of these cases imported. Dec. 20-26, 1921: Cases, 1; deaths, 1. Imported.